

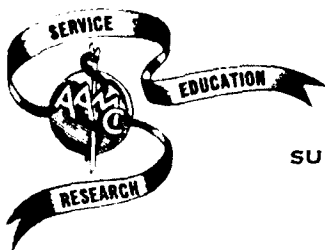
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THE NEEDS OF ACADEMIC RADIOLOGY IN THE SEVENTIES

**Report of the
Advisory Committee on Academic Radiology
of the
Association of University Radiologists
and
Society of Chairmen of Academic Radiology Departments**

November 1973

U. S. A.



ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

December 6, 1973

MEMORANDUM

TO: EXECUTIVE COUNCIL
ADMINISTRATIVE BOARD - Council of Deans
Council of Academic Societies
Council of Teaching Hospitals

FROM: John A.D. Cooper, M.D., President

SUBJECT: Report of the Advisory Committee on Academic Radiology

Early in 1972 the Association agreed to sponsor a study of the special needs of Academic Radiology conducted by the Association of University Radiologists and the Society of Chairmen of Academic Radiology and supported by the Picker Foundation. Sponsorship was contingent upon presentation of the final Report to the Executive Council of the Association for review and approval. One of the conditions of the agreement with the AAMC was a commitment from the Radiologists to rework any portion of the Report that the Executive Council finds unsatisfactory.

The Report has been submitted to the Executive Council for review by Alex Margulis on behalf of the Association of University Radiologists and the Society of Chairmen of Academic Radiology Departments and will be discussed by the Administrative Boards of the three Councils on December 13th and by the Executive Council December 14th.

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The Advisory Committee on Academic Radiology was appointed by the presidents of the Association of University Radiologists (AUR) and the Society of Chairmen of Academic Radiology Departments (SCARD) in May 1971. It consisted of 10 members including the presidents of AUR and SCARD, who sat *ex officio*, and a liaison representative from the American College of Radiology. Subcommittees for diagnostic radiology, radiotherapy, and nuclear medicine worked on specific problems and recommendations for their subspecialties and presented drafts of their reports to the committee.

The work of the committee was funded through a grant from the James Picker Foundation and was greatly facilitated by the cooperation of Michael Ball, M.D., from the staff of the Association of American Medical Colleges. A preliminary version of this report was presented to a joint session of AUR-SCARD in Vancouver on May 9, 1973, which unanimously endorsed the approach, principles, and conclusions.

Mr. Cedric Brady, as staff consultant, contributed significantly in the preparation of this report, which was edited by Mr. Russell Schoch and Ms. Miriam Zeiger.

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ABSTRACT

This report, prepared by a joint committee of the Association of University Radiologists and the Society of Chairmen of Academic Radiology Departments, establishes the needs of academic radiology by identifying and separating the academic functions from the patient care function. In a community hospital, each of the subdisciplines of radiology--diagnostic radiology, radiotherapy, and nuclear medicine--is responsible solely for patient care. In an academic radiology department, each subdiscipline is responsible for three other functions in addition to patient care: resident training, graduate and undergraduate teaching, and research. By using the costs of high-quality community hospital radiologic patient care as a standard, the further needs of academic radiology were determined. It was found that, depending on the subdiscipline, from 77% to 120% more staff physicians are required in an academic than in a community hospital radiology department and that the academic department requires from 29% to 192% more space, from 33% to 56% more investment in equipment, and from 0.5 to 2.5 additional full-time equivalents in supporting staff. Adding to these are the costs of salaries and benefits for residents that must be borne by the academic radiology department. Finally, it is proposed that research beyond that necessary to sustain a high level of teaching--research that is vital to the future of radiology and important to medicine as a whole--be funded separately on a competitive basis. These recommendations are presented in graphic form in Appendix II.

INTRODUCTION

Radiology encompasses three separate subdisciplines: (1) diagnostic radiology, which uses X-rays in the diagnosis of disease; (2) radiotherapy, which uses radiant energy in the treatment of disease; and (3) nuclear medicine, which uses radioactive materials for the diagnosis, and to a lesser extent the treatment, of disease.

In community, or non-academic, hospitals, each of these subdisciplines is responsible solely for patient care. In academic medical centers, in addition to its responsibility for patient care, each of the subdisciplines of radiology has three further responsibilities: teaching medical students, training residents, and developing new knowledge for the improvement of patient care.

Traditionally, these four functions of academic radiology have been financed from multiple sources, with little concern for the precise cost of each function. In countries that have failed to provide funds for each of these functions, academic institutions have been forced to perform all four activities with funds intended only for patient care. The inevitable outcome has been a progressive deterioration in the quality of academic radiology--not only in teaching, training, and research, but in patient care itself.

With these problems in mind, this committee undertook to analyze the costs of academic radiology department activities and to suggest some methods for allocating them to patient care, resident training, medical education, and research.

Methodology

Because training of medical students and especially of residents must be carried out in a clinical situation, most of the time spent on patient care and teaching involves an overlap of these functions, which makes it difficult to determine the exact costs of each. Previous cost studies in academic radiology departments, which were based on the allocation of professional staff time to patient care, resident training, teaching, and research, inevitably suffered from the fact that allocations of time, and therefore of cost, to one or another of these four functions were essentially arbitrary.

To avoid arbitrary judgments, this report will take advantage of the fact that patient care is also delivered in the community hospital, where teaching is not a factor, which gives a standard of comparison for determining the purely academic needs of an academic radiology department. A basic assumption of this report will be that patient care costs in an academic radiology department should approximate the costs of patient care in a community hospital radiology department. Once these costs are known, additional costs in an academic department can properly be attributed to academic functions.

To this end, cost comparison models were developed by analyzing the requirements of academic and non-academic radiology departments in each subdiscipline for the major types of resources used: staff physicians, supporting professional staff, space, and equipment. Research beyond that necessary to assure a high level of teaching will be considered in the final section of this report.

Since inflation and geographic differences in pay scale would distort most dollar measures, non-dollar measures were used for comparisons in all but the costs of equipment. Whenever possible, the concept of "full-time equivalent" (FTE) was used. An FTE is one person working full time, or two people each working half time, or five people each working one-fifth time, and so on--whatever combination adds up to the equivalent of one full-time worker. Using the FTE concept allows for the fact that few people perform only one function and that few functions are performed by only one person.

The information for most of the quantitative measures and comparisons used in this report came from surveys by the Society for Chairmen of Academic Radiology Departments (SCARD) from past years,¹ the Academic Council of the Society of Nuclear Medicine (ACSNM) survey of 1972,² and an independent survey conducted by this committee.³ The SCARD and ACSNM results were derived from 60 to 70 responding academic institutions. This committee's survey drew on 14 academic institutions and 30 nearby community hospitals, which were chosen for the variety of procedures performed and for the excellence of their professional staff.⁴

All comparisons made in this report are based on an analysis of average measurements from the institutions surveyed. The standards defined here are not intended to be applied uniformly to all institutions. Obviously, particular features of individual institutions will make it necessary to have flexible standards to meet differing needs. But it is hoped that this report will speak to the needs both of the various academic departments of radiology and of academic radiology as a whole as the discipline continues its growth, its service to the public, and its increase in cost to the hospitals that provide radiologic services.

DIAGNOSTIC RADIOLOGY

1. Introduction

Diagnostic radiology is one of the most useful disciplines of modern clinical medicine for diagnosing diseases. It is also one of the most heavily used. In 1964 a survey by the U.S. Public Health Service reported that 115 million medical diagnostic X-ray examinations were performed in the United States, equivalent to 1.2 diagnostic X-ray procedures for every two individuals in the population each year.⁵ Other studies have indicated that for every 100 patients admitted to a hospital, 160 X-ray diagnostic examinations are performed and that two-thirds of all hospital in-patients are examined radiologically during their hospitalization.⁶ Significantly, 73% of these in-patients have one or more medical diagnoses established or confirmed by radiological methods.⁷

The function of diagnostic radiology is to record and interpret images of organs and structures. Depending on the degree to which various parts of the body can be penetrated by radiation, shadows of varying density are produced by X-rays and are recorded as images on radiographic film. These images are then studied in order to pinpoint abnormalities and defects in organs and structures. In order to record an image of a hollow organ--such as the intestine--the organ is first filled with a compound that absorbs X-rays or with a gas that does not absorb X-rays at all. Similarly, images of blood vessels and lymphatics can be recorded after materials opaque to X-rays have been injected into them. Also, motion within organs and structures--such as blood flow and contraction of the heart and gut--can be visualized by recording multiple images on movie film. With specially

constructed fluoroscopes and television systems, this motion can be visualized on television screens and recorded on videotape. The most recent methods of producing images of organs and structures include the use of ultrasound (very high frequency sound waves) and thermography (the recording of variations in temperature of different body structures).

Although the diagnostic radiologist is responsible for obtaining these various types of images, his main responsibility is to study them in order to determine the medical significance of any abnormalities--in short, to diagnose diseases.

2. Staff Physician Requirements

a. Patient Care

Although the figure of 9,000 per annum has long been accepted as a reasonable number of examinations per diagnostic radiologist in a community hospital,⁸ the AUR-SCARD survey shows in fact that a mean of 11,000 and a median of 10,300 examinations are performed in community hospitals. Assuming 60,000 procedures in a community hospital department in a year, 6 FTE radiologists would be required.

In an academic department, however, several factors affect the number of procedures a diagnostic radiologist can perform. One of these is the use of academic departments as referral centers, a practice that results from the development of new methods of patient care by academic departments and the wide variety of special expertise they have available. Because complex cases require extra time, the number of procedures a physician can perform is decreased. Thus, more physicians are needed to perform 60,000 procedures in an academic department than in a non-academic department.

One way to account for the extra time needed for complicated cases is to introduce a "complexity factor"--a fraction added to 1 to account for the increased time needed and then multiplied by the number of procedures.⁹ A minimum estimate of the additional time required for X-ray examination and for interpretation based purely on complexity of the cases in a university department would be 10% of total time, a complexity factor of 0.1. Thus, 6.6 FTE radiologists would be needed in a university department, compared to the 6.0 in a community hospital, to perform 60,000 examinations per year.

Other factors limit the amount of time an academic radiologist can spend on patient care and affect the number of procedures he can perform. These include the training of residents, the teaching of graduate and undergraduate courses, research, and administration.

b. Resident Training

The clinical training of residents involves over-the-shoulder instruction in patient care and thus increases the amount of time the staff radiologist must devote to each case. He must teach the resident how to perform the procedures and to interpret the results of each case and must work at the resident's pace. Furthermore, the resident and the staff radiologist must interpret the films separately and then meet to discuss their findings--an unnecessary duplication in terms of patient care but an absolute necessity for good resident training.

But even though residents decrease the staff radiologists' efficiency, they render enough patient care to offset the loss of staff time--provided that there is an appropriate balance of staff radiologists and residents. A ratio of two residents to one staff radiologist is appropriate,¹⁰ although

it must be noted that this ratio holds only for staff physician FTE's directly involved in clinical teaching and does not include those involved in other functions.

Thus, it is unnecessary for the academic department to add to its staff of physicians to perform the clinical teaching function, which leaves the FTE requirement for academic radiologists at 6.6. The direct costs of the residents themselves are an additional item in an academic radiology department's budget which has no counterpart in the community hospital.

c. Graduate and Undergraduate Instruction

The core lecture course for radiology residents covers primarily radiologic techniques and pathophysiological processes, but also includes lectures on medical physics and radiobiology given by supporting professional staff. Approximately 100 hours of introductory lectures are given to beginning residents. With three hours of preparation and individual instruction necessary for each hour of teaching, the introductory lectures will require approximately 400 hours per year. In addition, approximately 400 hours per year should be devoted to teaching conferences and lectures at a higher level for more advanced residents; with preparation and tutoring time added, this will amount to 1,200 hours per year.¹¹ Thus, a total of approximately 1,600 hours per year is necessary for the teaching of core lecture courses for radiology residents. This requires an additional 1.0 FTE staff physician, bringing the total to 7.6.

Undergraduate teaching in radiology is a particularly important part of a medical school curriculum because, unlike other disciplines, radiology can be employed in the teaching of medicine as a whole. The amount of

faculty effort devoted to undergraduate core courses and electives depends on the size and curriculum of the individual undergraduate medical school. Typically, the diagnostic radiology section is called upon to provide 100 to 120 hours of undergraduate core teaching per year. Counting the time necessary for preparation, grading, and individual student contact, this requires an additional 0.5 FTE staff physician, bringing the total to 8.1.¹² Further staff support will be needed for undergraduate elective studies. Elective courses in diagnostic radiology are among the most popular courses in many medical schools. The classic preceptorship method of conducting these courses requires at least 0.5 FTE. This brings the total to 8.6 FTE staff physicians.

d. Clinical Research

In this committee's judgment, each faculty member involved in teaching should spend a minimum of 10% of his time in clinical (or laboratory) research in order to maintain a high level of instruction. Clinical research involves a continuous review of the benefits and limitations of the established approaches to diagnosis and treatment, as well as the development and testing of new approaches. This research allows continual improvement in patient care both for the department conducting the research and, after the results are published, for other departments. It also improves teaching by enabling staff radiologists to bring the most up-to-date information to their residents and medical students. Finally, it helps residents who enter private practice to recognize the need to continue their medical education in the years that follow.

Because this minimum level of research is seen as a teaching requirement, even though it also benefits patient care, it should be considered as a

teaching cost. The minimum 10% research requirement necessitates an additional 1.0 FTE, bringing the total to 9.6.

e. Continuing Medical Education

Continuing medical education is currently offered in both academic and community hospitals. This committee believes that such programs should be continued and that academic departments lacking these programs should be encouraged to develop them. In addition to keeping radiologists informed about the latest developments in their field, continuing medical education programs constitute an effective means of improving relations between the university physician and the community practitioner.

The role of the academic department in the development and operation of continuing medical education will obviously be critical. At least 1 FTE should be assigned to develop programs in order to assure the dissemination of new knowledge and the maintenance of skills on the part of those practicing radiology in the community.

Experience with existing programs in continuing education demonstrates that they can be self-supporting, since radiologists are willing to underwrite the cost of their own continuing education. Therefore, the 1 additional FTE that is needed does not have to be included in cost allocations.

f. Administration

The chief of any academic diagnostic radiology section other than the very smallest will find his time devoted more to administration than to patient care, teaching, or research. His administrative duties beyond those of the chief of a community hospital radiology section include selection of residents, coordination of graduate and undergraduate instruction and

clinical training, and coordination of research. A diagnostic radiology section generally requires one administrative staff FTE for up to 10 radiologists and two administrative staff FTE's for 11 to 20 radiologists. Assuming a staff of approximately 10 radiologists in the model discussed here, the total academic diagnostic radiology FTE requirement now becomes 10.6

g. Summary

The community hospital diagnostic radiology section performing 60,000 procedures per year needs 6 FTE radiologists. To perform the same number of procedures and also to perform its other functions, the academic diagnostic radiology department needs 10.6 FTE radiologists: 6.6 for patient care, 1 for graduate core studies, 1 for undergraduate core and elective studies, 1 for clinical research, and 1 for administration. These results are shown in Figure 1.

Another way of expressing the differing needs of academic and community hospital radiology departments is to use the incremental factor of 0.77 (derived from $10.6/6 = 1.77$). Of this 0.77 incremental factor, 0.10 is based on patient care requirements (because of the complexity of cases) and 0.67 is based on teaching requirements.

3. Supporting Professional Staff Requirements

At present, most community hospitals do not employ physicists. Instead, they use the services of physicist consultants to calibrate their equipment--which often means that the equipment is not properly maintained. Therefore, and especially in view of the increasing concern with radiation exposure to the population,¹³ it is expected that community hospitals performing 60,000

DIAGNOSTIC RADIOLOGY

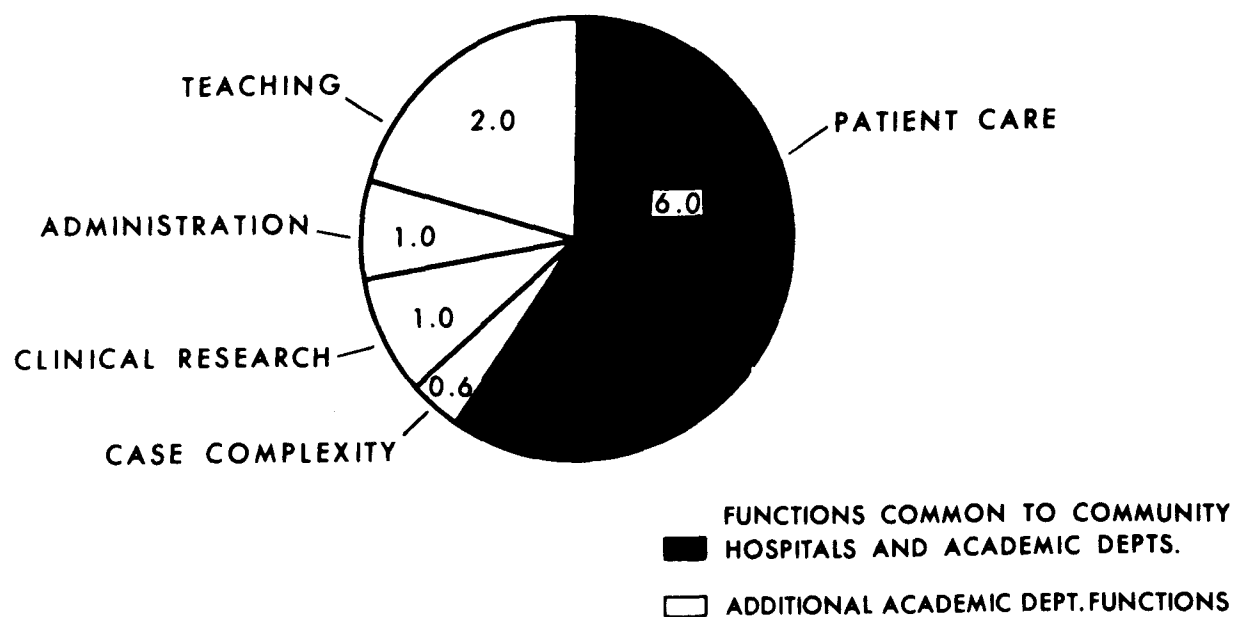


FIGURE 1

Physician staff functions in diagnostic radiology. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 10.6 compared to 6.0 for the community hospital department.

procedures per year will use physicists' services of approximately 0.5 FTE in diagnostic radiology.

Academic diagnostic radiology departments performing 60,000 procedures need the same 0.5 FTE physicist plus an additional 0.5 FTE: 0.5 for quality control, equipment calibration, and the supervision of radiation safety; 0.1 to develop new approaches to imaging and to evaluate and develop equipment, and 0.4 to teach residents, medical students, and student technicians.

4. Space Requirements

Academic hospitals require more space than community hospitals in order to accommodate teaching laboratories, libraries, conference rooms, and teaching files.¹⁴ The size of these particular areas will vary according to the individual organization of each school and teaching hospital. Approximately 2 to 3 square feet per student (plus 50% for corridors, shafts, toilets, etc.) and 50 square feet per resident (plus 50%) are adequate where there is no separation of resident and medical student facilities. In schools with a class size of less than 100 and in those with a physical separation of pre-clinical and clinical teaching facilities, a larger square footage per student is necessary. In schools with functional multidisciplinary laboratories or centralized audiovisual facilities available to the preclinical students, the lower figure may be sufficient.

In Planning Guide for Radiologic Installations,¹⁵ Cooper and Young conclude that the diagnostic section of an academic radiology department requires an increase of 17% more space than that needed in the community hospital. In addition to this 0.17 incremental factor, the complexity factor introduced in

the analysis of staff physician requirements should also be used in the calculation of space requirements because the additional demand on staff time generally translates into a similar requirement for diagnostic space. This requirement is primarily for patient care. Thus, using both the 0.17 incremental factor suggested by Cooper and Young and the 0.1 complexity factor derived when considering patient care needs, yields a net incremental factor of 0.29 for space in academic institutions--of which roughly one-third is needed for patient care and two-thirds for teaching. If the community hospital space requirement for a radiology section were 10,000 square feet, the academic department's requirement would be 29% more, or 12,900 square feet.

This estimated increase in academic space requirements does not provide for research space. The amount of such space depends on the type of research being conducted. Several outstanding academic diagnostic radiology departments in the United States have research space of 5,000 square feet or more. About 3,000 square feet is a minimum for departments engaged in laboratory research.¹⁶

At a minimum, then, an academic radiology section will require 29% more space without counting research space, and approximately 50% more space if research space is considered.

5. Equipment Requirements

Case complexity, which slows the flow of patients through the academic diagnostic radiology department and thereby increases the department's space requirements, also adds to the need for diagnostic equipment. Each piece of equipment is used more heavily in an academic department because it serves

both residents and a greater number of staff radiologists. The use of complex and sensitive modern X-ray equipment in the training of novices takes a great toll on the life of the equipment. In addition, because the academic radiology department operates as a referral center and is continually improving its diagnostic methods, its equipment will become obsolete at a faster rate than the equipment in a community hospital department.

Generally, academic institutions estimate the life of their diagnostic radiology equipment to be six years, while community hospitals count on an average life span for their equipment of eight years.¹⁷ This can be translated as an incremental factor of 0.33 for the equipment in an academic diagnostic radiology department.

Another measure of the increase in equipment requirements is provided by this committee's survey, which showed an average for 10 academic departments of \$14 of equipment investment (at original purchase price) per procedure per year compared to an average for community hospitals of \$10.90. This converts to an incremental factor of 0.34.

6. Summary

The needs of a diagnostic radiology department are presented in Appendix II. In comparison to the community hospital diagnostic radiology section, these needs are as follows: 77% more staff physicians (to handle more complex cases of patient care, resident training, graduate and undergraduate instruction, clinical research, and administration); 29% more space (or 50% more if research space is included); and 33% more investment in equipment. In addition, 1.0 FTE physicist--compared to the 0.5 FTE physicist needed by the community hospital--and the direct costs of an appropriate number of

residents must be part of the calculation of the increased needs of an academic diagnostic radiology department. Although the figures developed in this chapter were based on departments performing 60,000 procedures per year, it is felt that the results can be extrapolated and applied to either larger or smaller departments.

RADIOTHERAPY

1. Introduction

Although radiotherapy has been practiced for over half a century, most of the development and refinement of its techniques have come about in the past 15 years. Currently, along with surgery, radiotherapy is the main weapon in the battle to cure cancer patients. Radiotherapy deals with the application of ionizing radiation--produced by X-ray machines, particle accelerators, or radioactive materials--to the area bearing a tumor. High doses of radiation must be applied with great precision if successful treatment is to be obtained.

In addition to its use in the cure of cancer patients, radiotherapy also has outstanding palliative capabilities. In a variety of clinical cases, it has been used effectively to alleviate pain, restore luminal patency, preserve skeletal integrity, and reestablish the function of afflicted organs.

2. Staff Physician Requirements

a. Patient Care

The generally accepted method of measuring the activity level of a radiotherapy department is to count the number of new patients treated per year. Three hundred new patients per year is the commonly used standard for a full-time non-academic radiotherapist's caseload. But 600 new patients per year--roughly 60 to 70 patients per day--is considered the minimum requirement for sustaining an academic department because fewer patients would not provide a sufficient diversity of case material for teaching.

This report will therefore be based on departments with 600 new patients per year, which would make the community hospital requirement 2 FTE radiotherapists (600/300).

Academic radiotherapy departments will need additional staff physicians, however, since they act as referral centers and therefore treat a more complicated mix of patients than do community hospital departments. This increase in the academic radiotherapist's workload can be accounted for by using a complexity factor of 0.1. Thus, 2.2 FTE radiotherapists will be needed in the academic department to treat its 600 new patients per year.

b. Resident Training

Another portion of the academic radiotherapist's time is given over to the training of residents. Since a resident can participate in and learn from the care of about 150 to 200 patients per year, the academic department can accommodate three to four residents. The clinical training of four residents would raise the academic radiotherapy requirement by about 1 FTE to 3.2. This high ratio--more than three faculty members for every four residents--is required because so much of the work involves direct patient care. In addition, the department will have to provide resident salaries and benefits.

c. Graduate and Undergraduate Instruction

Undergraduate core and elective teaching is a minor component in most academic radiotherapy sections. This is part of a serious underrepresentation in medical school curricula for the entire field of clinical oncology (the treatment of cancer), which is currently fragmented into three separate camps: the specialties of surgery, medical oncology, and radiation therapy.

What is needed is a major restructuring of the teaching and practice of clinical oncology to benefit both patients and residents; this would come from an interdisciplinary program. Currently, about 5% of faculty energies are devoted to undergraduate instruction; in a well organized interdisciplinary program, it would probably be closer to 10%. An interdisciplinary system might also change the teaching requirement for graduate core and elective teaching.

At present, the total graduate and undergraduate core and elective instruction activities would require about 0.5 FTE radiotherapists. This brings the academic department total to 3.7 FTE radiotherapists.

d. Clinical Research

Clinical research, which comprises the proper staging of cases and their follow-up review, benefits patients by allowing the relative merits of different treatment techniques to be analyzed. Also, it permits the wide range of experience typical of an academic department to be developed into a body of knowledge for the benefit of other practitioners and their patients. In addition, clinical research is an integral part of the teaching function since it allows the teacher to keep up with and better evaluate advances in his field, thereby improving the quality of resident training and graduate and undergraduate instruction.

The necessary minimum level of clinical research in an academic radiotherapy department is 10% of faculty energies, which translates into a 0.1 incremental factor or 0.5 FTE. This raises the total academic FTE requirement to 4.2 FTE radiotherapists.

e. Continuing Medical Education

Academic departments will play an expanding role in continuing medical education. However, since it is expected that this type of activity will be supported by the practicing radiotherapists who take advantage of continuing education courses, no FTE's need to be added to the cost allocations for this function.

f. Administration

Approximately 5% of the total effort of the radiotherapy faculty must be given to administration of academic functions, which works out to 0.2 FTE, making the academic department total 4.4 FTE radiotherapists.

g. Summary

A community hospital radiotherapy department treating 600 new patients per year requires 2 FTE radiotherapists. An academic department with 600 new patients per year and a full quota of residents needs a minimum of 4.4 FTE radiotherapists: 2.2 for patient care, 1.0 for resident training, 0.5 for graduate and undergraduate teaching, 0.5 for clinical research, and 0.2 for administration. These results are presented in Figure 2. Continuing medical education will require further additions to the academic staff, but their support is expected to come from the practitioners who take advantage of the educational opportunities.

3. Supporting Professional Staff Requirements

The planning of treatment, a critically important aspect of radiotherapy, is performed most effectively by physicists, dosimetrists, and other supporting professionals. To plan treatments, this committee believes that an academic department with 600 new patients per year needs 2 FTE physicists and

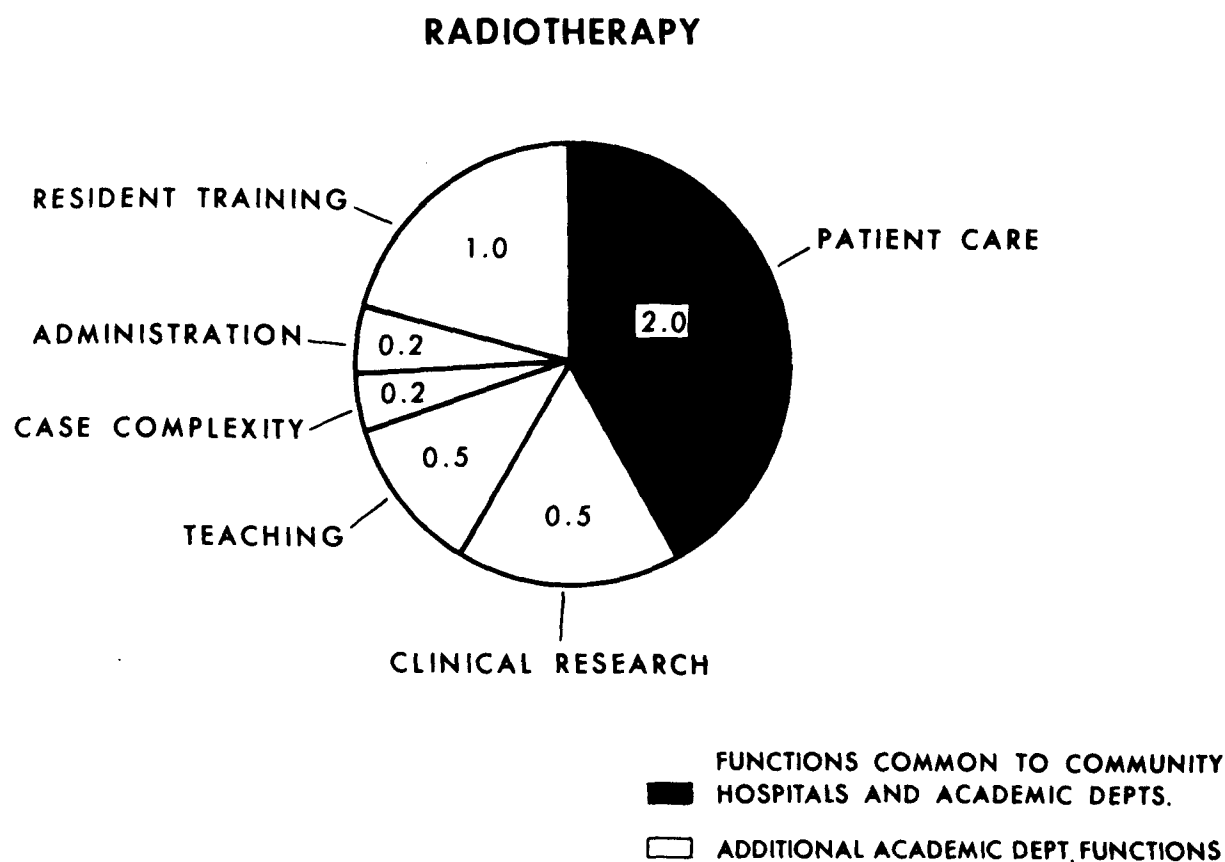


FIGURE 2

Physician staff functions in radiotherapy. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 4.0 compared to 2.0 for the community hospital department.

1 FTE dosimetrist. Physicists and dosimetrists spend one-half to three-fourths of their time providing patient care in the form of planning for radiation treatments and quality control for dosimetry; the remainder of their time is given over to teaching and research.

This large percentage of time spent on patient care indicates that community hospital radiotherapy departments should also include physicists and dosimetrists on their staffs. The Committee for Radiation Therapy Studies recommends at least one physicist per 400 new patients per year for non-academic departments.¹⁸ There is also a need for increased supporting professional staff in order to upgrade the quality of patient care by community hospital radiotherapy departments; this further need, which could be met through cooperation with academic centers, will not be used in this report's calculations.

In addition to 2 FTE physicists and 1 FTE dosimetrist, the academic radiotherapy department needs 1 FTE radiobiologist. The radiobiologist would not be involved in direct patient care but would divide his time between teaching and research. Part of the cost of the teaching load of a radiobiologist could be allocated to diagnostic radiology and nuclear medicine.

Thus, the community hospital treating 600 new patients per year will need at least 1.5 FTE physicist and the academic department will need at least 4 FTE's in supporting staff: 2 FTE physicists, 1 FTE dosimetrist, and 1 FTE radiobiologist. This represents an increase of 2.5 FTE's in supporting staff for an academic radiotherapy department.

4. Space Requirements

The needs for space devoted purely to patient care are basically the same in the community hospital and the academic department. These include treatment rooms, waiting areas, and dressing rooms. Other areas, such as office space, employee lounges and dressing rooms, and patient examining rooms, are somewhat larger in an academic department because of its larger staff.

But some academic department facilities are completely additive requirements. These include simulator rooms, which lead to a more efficient use of the actual treatment rooms, a physics section, a dosimetry section, a tumor registry, a classroom, a study area, a library, resident offices, conference rooms, a teaching laboratory, and clinic space, either in the department or in the out-patient area. In addition, the academic department must provide research laboratory space, the amount of which will vary depending on the type of research being conducted.

The result of these additional requirements is that the academic radiotherapy department needs approximately twice as much space as a community hospital department with the same number of new patients per year.

5. Equipment Requirements

The standard investment and use of radiotherapy equipment is very nearly the same in community and academic departments. But complicated cases can require the purchase of highly specialized and expensive equipment, such as high energy betatrons or linear accelerators.

A survey by this committee reflects the demand on academic departments to make extra investments to provide services not usually available at community hospitals. The survey shows an average for 10 academic institutions

of \$705 per new patient per year in equipment investment (original purchase price) and an average for 14 community hospitals of \$405. This represents an increase of 57% in equipment investment for the academic radiotherapy department.

6. Summary

The needs of a radiotherapy department are presented in Appendix II. In comparison to the community hospital radiotherapy section with 600 new patients per year, the needs of the academic radiotherapy department are as follows: 120% more staff physicians (to handle more complex cases of patient care, resident training, graduate and undergraduate instruction, clinical research, and administration); 100% more space; and 57% more investment in equipment. In addition, the academic department will need about 2.5 more FTE's in supporting professional staff than the community hospital and must provide for the costs of resident salaries and benefits.

NUCLEAR MEDICINE

1. Introduction

Nuclear medicine is the newest of the radiological specialties and is still a rapidly evolving field. The discipline uses radiopharmaceuticals--radioactive materials--for treatment, but primarily for the diagnosis of disease. Diagnostic methods include those in which fluids or tissues from the patient are examined (*in vitro* studies) and those in which the patient himself is examined (*in vivo* studies). The most important of the *in vivo* studies are those performed by radiopharmaceutical imaging. To obtain images, the patient is given a radioactive compound which distributes itself differently in normal and abnormal body tissues; pictures of body radioactivity are then made with a radiation detector. From these pictures, a nuclear medicine physician is able to examine the structure and function of a wide variety of internal organs with little or no discomfort to the patient.

Academic nuclear medicine is actively engaged in the research and development of new instruments and radiopharmaceuticals for diagnostic examinations. Because these are rapidly adopted in the academic department's clinical practice, but not as rapidly in that of the community hospital, the difference between academic and most community hospital nuclear medicine sections is at present widening.

2. Staff Physician Requirements

a. Patient Care

Although *in vitro* studies are an important part of nuclear medicine, the numbers of these studies currently varies so widely from hospital to

hospital that only *in vivo* studies will be considered here. This discussion of the relative requirements for academic and community hospital nuclear medicine departments is based on the assumption that each department performs an average of 6,000 *in vivo* procedures per year.¹⁹ A study of full-time community hospital nuclear medicine sections by this committee indicates that 4,000 *in vivo* procedures per physician per year are performed.²⁰ Thus, for 6,000 *in vivo* procedures per year, the community hospital would require 1.5 FTE staff physician for patient care.

The newness of this specialty, its rapid evolution, and the shortage of active non-academic departments make academic nuclear medicine departments especially important as referral centers. This results in a high complexity factor--estimated by this committee at 0.3--for the academic department, which requires an additional 0.5 FTE, making the total 2.0 FTE staff physicians to perform its 6,000 *in vivo* procedures per year.

b. Resident Training

Although resident training responsibilities reduce the amount of time individual staff physicians can give to patient care in nuclear medicine, the patient care services provided by two or three residents²¹ offset this loss. Thus, the academic nuclear medicine department does not need to add physician staff, and the requirement remains at 2.0 FTE. However, the costs of residents' salaries and benefits will have to be included in the department's budget.

c. Graduate and Undergraduate Instruction

In order to prepare nuclear medicine residents to function as part of the clinical team, a great deal of basic instruction is required in nuclear medicine physics, radiochemistry, and physiology. At the present level, which is far from optimal, these teaching responsibilities require an

additional 0.3 FTE for the academic department, bringing the total to 2.3 FTE staff physicians.

d. Clinical Research

A reasonable minimum amount for clinical research is 20% of total nuclear medicine staff physician time. This requirement, higher than that for diagnostic radiology and radiotherapy, is justified for two reasons: the field of nuclear medicine is rapidly evolving and thus requires a greater amount of research, and academic nuclear medicine typically has a smaller staff of physicians than the other two subdisciplines, therefore requiring a higher proportional amount of time devoted to clinical research by each physician in order to achieve continuity in research programs.

The 20% requirement for clinical research adds another 0.6 FTE and raises the total for an academic nuclear medicine department to 2.9 FTE staff physicians.

e. Continuing Education

Although continuing education is a rapidly developing requirement for nuclear medicine, it is not possible at present to define adequately the staff requirements necessary to provide this service. For this reason, and also because physicians themselves will probably pay for the cost of these courses, continuing education will not be considered in assessing the needs of an academic nuclear medicine department.

f. Administration

A 1972 survey showed that approximately 18% of the academic nuclear medicine physician's time is spent on administrative matters.²² One-third of this, dealing with patient care, is duplicated in the community hospital

department. The remaining 12% produces an incremental factor of 0.1 for academic administrative duties, which adds another 0.3 FTE to the academic department staff and raises the total requirement to 3.2 FTE staff physicians.

g. Summary

The community hospital department needs 1.5 FTE staff physicians to perform 6,000 *in vivo* procedures per year, whereas the academic department requires 3.2 FTE staff physicians: 2.0 for patient care, 0.3 for teaching, 0.6 for clinical research, and 0.3 for administration.²³ These results are presented in Figure 3.

3. Supporting Professional Staff Requirements

The supporting professional staff in a nuclear medicine department supervises instrumentation and the production of radiopharmaceuticals. Most community hospitals do not need to employ supporting professionals because they use consultants for instrumentation and purchase radiopharmaceuticals. An ACSNM survey showed an average of two supporting professionals per academic nuclear medicine department,²⁴ and this seems a minimum requirement. The two supporting professionals, typically a radiation physicist and a radiopharmaceutical chemist, provide resident instruction and research expertise in the academic department, in addition to their technical duties. One other professional, a radiobiologist, is needed to give lectures to nuclear medicine residents. This resource would be shared with diagnostic radiology and radiotherapy departments.

Thus, the academic department will need to provide for two supporting professional staff employees and share in the support of a third.

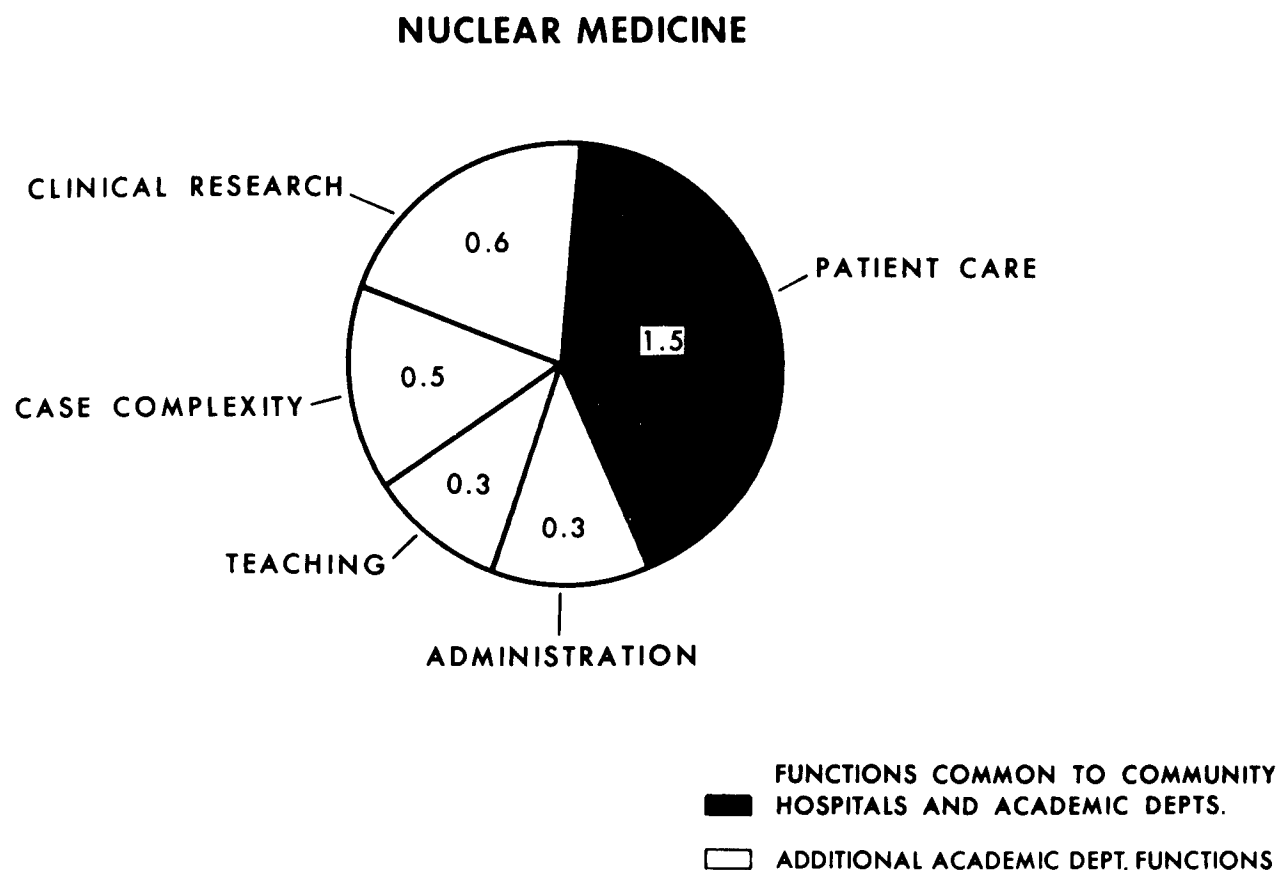


FIGURE 3

Physician staff functions in nuclear medicine. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 3.2 compared to 1.5 for the community hospital department.

4. Space Requirements

A 1972 ACSNM survey showed that lack of sufficient space was the major problem faced by academic nuclear medicine departments; the median response to the survey indicated a need for twice the space currently used.²⁵ This committee recognizes that lack of space is also an acute problem in many community hospital nuclear medicine departments. Thus, it is difficult to achieve reliable estimates of relative space needs for the two types of departments: both currently lack adequate space.

The ACSNM survey showed that the average academic department requires 1 square foot per 1.66 *in vivo* and counting procedures.²⁶ This means that 3,600 square feet are required in academic departments performing 6,000 procedures. The SCARD survey of 1971 showed that 40% of this space is allocated to teaching and clinical research,²⁷ leaving 60%, or 2,100 square feet, for patient care.

This committee's survey indicates that community hospital nuclear medicine departments typically perform 6,000 *in vivo* procedures in about 1,300 square feet. This low a figure occurs because the community hospital's *in vivo* studies are generally less involved and less time consuming.

These figures for the two types of department indicate an incremental factor of 0.6 ($1.6 \times 1,300 = 2,100$) for academic department patient care and a total academic nuclear medicine department incremental factor of 1.8 ($2.8 \times 1,300 = 3,600$). In other words, and recognizing that both departments need more space, at present the academic department requires 192% more space than the community hospital section to perform 6,000 procedures.

5. Equipment Requirements

Because of the increased complexity of the procedures it performs--for example, dynamic uptake studies that use multiple-exposure cameras--the

academic nuclear medicine department needs more sophisticated equipment than the community hospital department does. This committee's survey, based on the estimated replacement cost of department equipment, shows that the initial investment of an academic department is 35% more per procedure than in the community hospital department. This 0.35 incremental factor does not take into account a rapid obsolescence factor, which is probably more critical in an academic department than in a community hospital department, because sufficient data are not available to form such an estimate.

6. Summary

The needs of an academic nuclear medicine department are presented in Appendix II. In comparison to the community hospital nuclear medicine department performing 6,000 *in vivo* procedures per year, the academic nuclear medicine department requires an increase of 113% in staff physicians, 192% in space, 35% in equipment investment, and at least two supporting professionals. It also has to provide for residents' salaries and benefits.

RESEARCH

Almost all of the advances in the three clinical branches of radiology--diagnosis, therapy, and nuclear medicine--have been achieved by clinical and laboratory research carried out by university radiologists. Clinical research, which involves a continuous review of the benefits and limitations of established diagnostic procedures and treatments, as well as the development and testing of new diagnostic procedures and treatments, helps to maintain a high quality of patient care and to preserve a high quality of teaching. The minimum amount of clinical research necessary to the teaching function was considered in each of the three preceding sections of this report.

Laboratory research in radiology encompasses two major areas. One is the development and improvement of equipment and systems. Examples of this type of research in diagnostic radiology include the development of ultrasound diagnostic equipment for the differentiation of solid tumors and cysts and the development of fine focal spot X-ray tubes to allow the magnification of details shown on X-ray films. In radiotherapy, laboratory research in this area is exemplified by the development of computerization of dose calculations to any point in and around the area being irradiated and by the development of machines that can give better defined beams of X-rays or gamma rays and electrons of various energy. In nuclear medicine, examples include the development of the gamma camera and the application of computers to obtain physiologic data from images.

The second area of laboratory research in radiology involves experimental studies of biologic and physiologic processes. In diagnostic radiology,

this includes the use of existing imaging systems in conjunction with other methods to study physiologic processes in animals. These studies, which vary widely in scope, attempt to establish animal models in which normal and abnormal functions can be analyzed for their relevance to the study of human disease. Studies of cardiac physiology, the regional circulations, pharmacodynamic responses of visceral vascular beds, methods of quantitating regional ischemia, the investigation of gastrointestinal motility--all of these studies of physiological processes increase the understanding of disease and lead to better methods for the diagnosis and treatment of patients.

In radiotherapy, this second area of laboratory research deals with cancer induction and the effects of radiation on animals, cell cultures, or other *in vitro* systems, such as enzyme systems or organ systems, designed to duplicate what happens in humans. Understanding these biologic processes through laboratory research enables the radiotherapist to better plan for the treatment of cancer in humans. To mention only one example, work with mouse leukemia led to the discovery that central nervous system irradiation in combination with chemotherapy yielded improved cure rates.²⁸ This same combination has led to improvement in the cure of childhood acute lymphocytic leukemia.²⁹

In nuclear medicine, experiments are performed on animals in order to develop new examinations for tumor detection and estimates of organ function, to determine the adequacy of the blood supply, and to make many other assessments of regional physiology useful in the care of patients. Only after the efficacy and safety of radioactive compounds and study methods have been tested extensively on laboratory animals are the studies applied to human patients.

To be significant, all laboratory studies must eventually be confirmed by clinical studies. Clinical research involves a great deal of planning, time, and effort, for its observations must be made on patients and its studies must be designed so as not to be harmful in any way.

This committee believes that from 10% to 20% of faculty time is an essential minimum to be spent on research for all academic radiology departments. Even more time must be spent in many departments if the field is to continue to advance and to increase the benefits to patients. In departments where there is an emphasis on research, an overall figure of 50% of faculty time devoted to research is not unreasonable.

How can these research activities be supported? The research grant, judged by peer review and awarded to an individual, is the mainstay of research in radiology, as it is in other fields of medicine today, and is likely to remain so in the future.

But laboratory research in radiology requires very expensive equipment, equipment that is not easily supported by the individual research grant. It also requires a number of full-time scientists and technicians to perform the research. It is unlikely that individual grants alone can support either a sufficient number of full-time scientists and technicians or the purchase and maintenance of large amounts of complicated and expensive major equipment. Even if some departments were able to afford these expenses by using individual grants, research centers could achieve the same goals through centralized management and could do so in a more efficient and economic way. Therefore, this committee believes that in addition to the research programs that should be a part of all radiology departments, a limited number of research centers should be funded and equipped for laboratory research.

The awarding of these centers must be done with great care. Their selection should be approved only on the basis of competitive application, with periodic review and mandatory applications for renewal at specific intervals. Scientific excellence and the ability of a center to perform meaningful research should be the only deciding criteria; little regard should be given to geographic location. It should be emphasized that the establishment of research centers should in no way influence or diminish the awarding of individual research grants.

In conclusion, this committee recommends that major clinical and laboratory research efforts be identified so that their costs can be properly allocated.

APPENDIX I

Calculating Space Requirements

There are two widely respected formulas for calculating the space needed by diagnostic radiology sections. But both present problems and were excluded from use in this report. Probably the most influential formula in the United States today for such calculations was devised by T. Wheeler.³⁰ Wheeler's method for calculating the number of X-ray rooms for in-patients consists of a formula with multiple constants (K) per patient type (medical, surgical, obstetric, pediatric, and long-term) representing the average number of examinations per admission:

$$\frac{K \times \% \text{ occupancy} \times \text{number of beds}}{\text{average stay}} = \text{exams per day.}$$

The main problem with Wheeler's formula is the empirical nature of the multiple constants (K). The formula allows no flexibility for adapting to local conditions and to the expected patient mix.

The second formula, the most comprehensive approach to the problem of space for diagnostic radiologic facilities, is by R. Lindheim.³¹ She proposes the formula:

Number of X-ray rooms =

$$\frac{\% \text{ of peak load during workday} \times \text{peak workload} \times \text{average time/procedure}}{\text{amount of time each X-ray room or unit is to function daily}} .$$

Lindheim proposes 75% to 85% as the optimal percentage of peak load during the workday. She has also published average time data for a number of common examinations at a university hospital, ranging from a chest X-ray (7 minutes) to a chemopallidectomy (212 minutes). To calculate the number of diagnostic rooms required, separate equations are used for special procedure rooms, X-ray rooms, and fluoroscopy rooms.

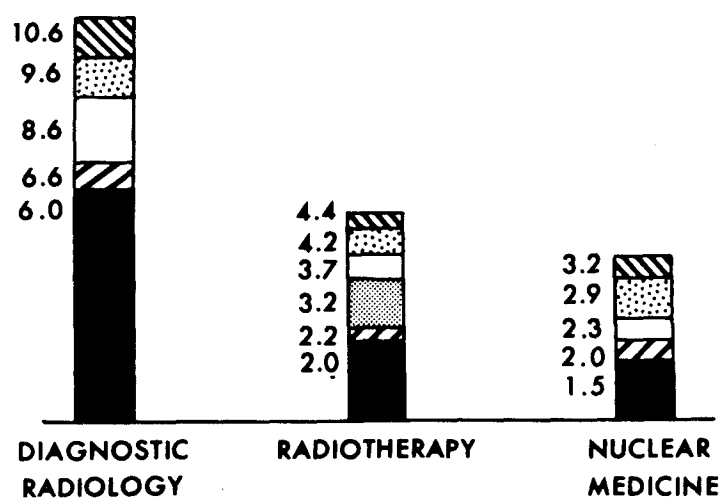
Lindheim's formula has been widely accepted because of its logic and flexibility. It does not dictate or exclude one- or two-shift operations. It gives consideration to patient waiting time and can be altered to fit local variations in average procedure time where they can be measured or predicted. The formula can also adjust to rapid automated equipment, and it allows the type of equipment and type of patient to be examined to determine individual room size.

But even though Lindheim's formula is a very strong tool for planning a diagnostic radiology section, it does not lead directly to a comparison between academic and community hospital operations because the average time per procedure varies. The question then becomes: How do these average times differ between academic and non-academic institutions? The answer is critical for deciding the number of diagnostic radiology rooms needed for expected patient loads in each type of institution. An involved systems study in several institutions could generate hard data on this subject. But to this committee's knowledge, no such study has been undertaken.

APPENDIX II

Table 1

STAFF PHYSICIANS (FTE's)



■ COMMUNITY HOSPITAL and
ACADEMIC DEPT. PATIENT CARE

ADDITIONAL ACADEMIC DEPT. FUNCTIONS

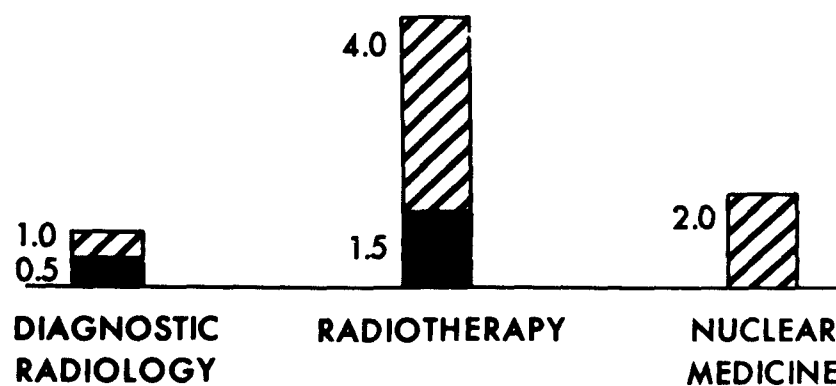
- ▨ CASE COMPLEXITY
- TEACHING
- ▤ CLINICAL RESEARCH
- ▧ ADMINISTRATION
- ▥ RESIDENT TRAINING

Staff physician FTE's required in an academic department in all three sub-disciplines of radiology. Numbers of additional FTE's needed for each academic function are identified as additions to the basic number of FTE's required for patient care in both community hospital and academic departments. Note that the case complexity requirement in academic departments is attributable to patient care.

APPENDIX II

Table 2

SUPPORTING PROFESSIONAL STAFF (FTE's)

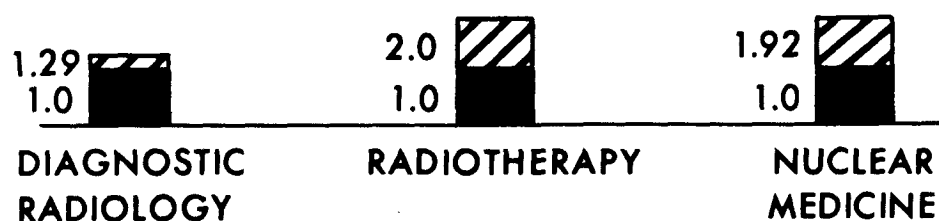


■ FOR PATIENT CARE BY BOTH
 COMMUNITY HOSPITAL AND ACADEMIC DEPTS.
 ▨ FOR ADDITIONAL ACADEMIC DEPT.
 FUNCTIONS

Supporting professional staff FTE's required in an academic department in all three subdisciplines of radiology. Numbers of additional FTE's required for academic functions are identified as additions to the basic number of FTE's required for patient care in both community hospital and academic departments.

APPENDIX II

Table 3

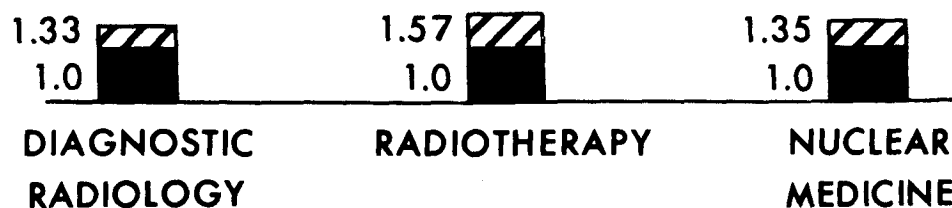
SPACE



FOR PATIENT CARE BY BOTH
 ■ COMMUNITY HOSPITAL AND ACADEMIC DEPTS.
 ▨ FOR ADDITIONAL ACADEMIC DEPT.
 FUNCTIONS

Additional space requirements for academic departments in all three subdisciplines of radiology expressed in percentage form. The space necessary for patient care common to community hospital and academic departments is expressed as 1.

APPENDIX II

Table 4

EQUIPMENT

-  FOR PATIENT CARE BY BOTH
COMMUNITY HOSPITAL AND ACADEMIC DEPTS.
-  FOR ADDITIONAL ACADEMIC DEPT.
FUNCTIONS

Additional equipment requirements for academic departments in all three subdisciplines of radiology expressed in percentage form. The equipment necessary for patient care common to community hospital and academic departments is expressed as 1.

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2. Academic Council of the Society of Nuclear Medicine (ACSNM), Survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972.
3. Association of University Radiologists-Society of Chairmen of Academic Radiology Departments (AUR-SCARD) Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973. Statements on quantifiable projections and data that are not followed by a reference giving the source are opinions of the committee arrived at after discussion and committee evaluations.
4. In addition, the nuclear medicine subcommittee conducted a telephone survey to confirm some of the committee's data.
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6. R.H. Morgan, The emergence of radiology as a major influence in American medicine, Caldwell lecture, 1970. *Amer. J. Roentgenol.* 111: 449-462, Apr. 1971.
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8. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
9. The concept of a complexity factor was developed by this committee.
10. Extrapolation from the SCARD survey of academic radiology departments. 1972-1973.

11. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
12. This is not necessarily an optimum situation. The amount of department involvement will depend on the interest of radiologists and on the availability of other teaching resources within the medical school. If the requirements are greater, the department must be staffed accordingly or other faculty functions will suffer.
13. See, for example, A.R. Margulis, The lessons of radiobiology for diagnostic radiology, Caldwell lecture, 1972. *Amer. J. Roentgenol.* 117: 741-756, Apr. 1973, and The Advisory Committee on the Biological Effects of Ionizing Radiations, The effects on populations of exposure to low levels of ionizing radiation. Division of Medical Sciences, National Academy of Sciences-National Research Council, Washington, D.C., Nov. 1972.
14. See Appendix I to this report for a discussion of two widely accepted formulas for determining the space needs of diagnostic radiology departments.
15. G. Cooper, Jr. and B.R. Young, General considerations in planning radiologic installations, in Planning Guide for Radiologic Installations, W.G. Scott, ed. Williams and Wilkins, Baltimore, 1966, p. 24.
16. SCARD, Survey of academic radiology departments. 1971-1972.
17. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
18. A proposal for integrated cancer management in the United States: the role of radiation oncology, report to the National Cancer Institute, National Institutes of Health, by the subcommittee for revision of the

"Blue Book" (1968 report) of the committee for radiation therapy studies. Nov. 1, 1972.

19. The number performed by most academic centers surveyed by the ACSNM survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972.
20. It should be pointed out that the relative newness of nuclear medicine and the dearth of full-time practitioners in this specialty make the figure used here a less reliable standard than those used in diagnostic radiology and radiotherapy.
21. ACSNM, Survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972. The survey shows a current average of two or three nuclear medicine residents and an ideal average of two residents per staff physician.
22. *Ibid.*
23. This gives an overall average of 1,900 *in vivo* imaging studies per physician in an academic department, an estimate that compares favorably with the 2,280 studies per physician that the ACSNM survey (1972) of 66 institutions suggested. Many of these institutions have fewer than the assumed number of residents, which indicates that most of them are not as well staffed as the model used in this report. This committee's survey, based on results from 10 institutions, showed an average of 1,710 procedures per physician. Both of these actual averages are significantly lower than the community hospital productivity model of 4,000 procedures per physician. This is in marked contrast to the situation in diagnostic radiology, where the actual average of procedures per radiologist for 64 academic institutions was approximately the same as in community hospitals. The reason for this is

that patient care responsibilities dominate the functions of the radiologist in an academic diagnostic radiology department to a greater extent than in nuclear medicine.

24. ACSNM, Survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972.
25. *Ibid.*
26. *Ibid.*
27. SCARD, Survey of academic radiology departments. 1971-1972.
28. R.E. Johnson, An experimental therapeutic approach to L1210 leukemia in mice: combined chemotherapy and central nervous system irradiation. *J. Natl. Cancer Inst.* 32: 1333, 1964.
29. R.J.A. Aur, J.V. Simone, H.O. Hustu, and M.S. Verzosa, A comparative study of control nervous system irradiation and intensive chemotherapy early in remission of childhood acute lymphocytic leukemia. *Cancer* 29: 381-391, Feb. 1972.
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COUNCIL OF DEANS
ADMINISTRATIVE BOARD

AAMC Conference Room
Thursday, December 13, 1973
9:00 a.m. - 3:00 p.m.

AGENDA

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ASSOCIATION OF AMERICAN MEDICAL COLLEGES
MINUTES
ADMINISTRATIVE BOARD OF THE COUNCIL OF DEANS

September 13, 1973
9:00 a.m. - 4:00 p.m.
Conference Room
AAMC Headquarters

PRESENT:

(Board Members)

J. Robert Buchanan, M.D.*
Ralph Cazort, M.D.
Clifford G. Grulee, M.D.
Andrew Hunt, M.D.
William Mayer, M.D.
Sherman M. Mellinkoff, M.D.
Robert L. Van Citters, M.D.

(Guests)

Charles Sprague, M.D.*
D. C. Tosteson, M.D.*

ABSENT

William Maloney, M.D.
Emanuel M. Papper, M.D.

(Staff)

John A. D. Cooper, M.D.*
Joseph A. Keyes
Stella Thomas
Bart Waldman*
Marjorie P. Wilson, M.D.

I. Call to Order

Dr. Mellinkoff, Chairman, called the meeting to order
at 9:06 a.m.

II. Minutes of the Previous Meeting

The Minutes of the June 21, 1973, meeting were approved
as circulated.

III. Chairman's Report

The Chairman noted that the joint meeting of the three
administrative boards was now scheduled at 11:00 a.m.
He also noted that because Dr. Buchanan would be

* Present for only a portion of the meeting

required to leave before the afternoon session of the meeting, a discussion of the Spring Meeting program would be taken up out of the order indicated on the agenda.

IV. Sprague Committee Report

The Board having had an extensive briefing on the report of the Committee on Financing Medical Education, Undergraduate Medical Education: Elements--Objectives--Costs, little discussion of this item was required at this meeting. Several concerns were expressed which were reflected in the action of the Board passed un-animously:

"The Administrative Board endorses the Report and recommends its adoption to the Executive Council. The Board advises that, in the final editing, there should be greater emphasis placed on empirical nature of the derivation of the costs of the instructional component, and the level of confidence the data deserve, as well as a more explicit linkage of the data base to the model utilized to derive the clinical and research components, so that it is clear that the model is descriptive rather than normative."

V. Representation in the Assembly

After noting the background material related to this issue, the COD Administrative Board judged that some expansion of the representation of the other Council's in the Assembly was appropriate but that this should not be without limit and should retain some proportionality to the representation of the Council of Deans. A dissenting view was that the CAS is not representative of medical school faculties and that a different kind of restructuring was called for.

"The Board recognizes the interest of the CAS to increase its membership in the Assembly, and recommends changes in the AAMC Bylaws that would preserve the proportionate relationship of the Assembly membership between representatives of the three Councils established with the inauguration of the Assembly. (The original ratio was set at COD - 101, CAS - 35, COTH - 35. With the increase in Institutional Members to 114, the adoption of this proposal would provide for COD - 114, CAS - 40, and COTH - 40.)"

VI. Senior Membership in the AAMC

The Board endorsed the proposal that the Bylaws be amended to rename the "Senior Members" "Distinguished Members" and to provide for the expanded participation of these members in the affairs of the Association in the manner set out in the Guidelines and proposed Bylaw revisions.

A committee consisting of Drs. Buchanan, Grulee and Van Citters was established to recommend nominations for election to this category of membership.

VII. Graduate Affiliate Institutional Membership

The Board voted to reject the request of the College of Community Health Sciences of the University of Alabama, that it be recommended for election to Provisional Graduate Affiliate Institutional Membership in the AAMC. The Board considered that this school was not of the character contemplated in the establishment of this membership category. It recognized, however, that the criteria for this membership category was in need of further definition and clarification and requested that the Association undertake this task.

VIII. Election of Institutional Members

The Board voted to recommend that the following institutions be elected to Institutional Membership:

LSU - Shreveport
Rush Medical College
University of Missouri, Kansas City
University of Nevada, Reno

Subject, in the case of LSU, Shreveport to favorable LCME action on full accreditation in October.

IX. Election of Affiliate Institutional Members

The Board voted to recommend Memorial University and University of Calgary Faculties of Medicine to Affiliate Institutional Membership subject to favorable action on full accreditation by the LCME in October.

X. CCME Bylaws

The Board voted to recommend approval of the proposed Bylaws of the Coordinating Council on Medical Education provided that the word "policies" in Article II, Section 1 (a) be deleted and the words "policy recommendations" be inserted in its place.

XI. Moonlighting House Officers

The Board voted to recommend that the Executive Council authorize the appointment of Task Force with representatives of the three Councils charged with the task of developing an appropriate AAMC policy statement on this subject.

As input to that process the Board expressed its view that the practice was potentially deleterious to graduate education, that in no case should it be done without the knowledge of the chief of service of the program, and that it should be permitted only in those cases in which the chief of service will certify that it does not detract from the educational program.

XII. Adequacy of Post-M.D. Clinical Training Opportunities

The Board reviewed a staff paper prepared in response to the Executive Council action in June and recommended that it be revised to include --

- 1) a clearer focus on the availability of first year positions,
- 2) a further refinement with respect to the availability of places by specialty, and
- 3) a refinement of the definition of affiliated teaching hospital focusing on university owned and operated, major or primary affiliate hospitals, hospitals with limited affiliation, and non-affiliated hospitals.

XIII. Physician Distribution by Specialty

The Board voted to recommend that the AAMC Committee on Graduate Medical Education be requested to explore the desirability and feasibility of an effort to tailor the number of residents in each specialty to national needs.

XIV. Follow-up on Admissions Committee Report

The Board reviewed a progress report concerning educational material for admissions committees and recommended that the staff proceed on work to develop:

- A. A summary of available annotated bibliographic materials,
- B. A series of common questions concerning admissions keyed to the bibliography, and
- C. A list of guiding principles for admissions committees keyed to bibliographic items.

XV. COD Spring Meeting

The Board reviewed its program committee's proposed Spring COD Program, which focuses on faculty tenure, collective bargaining, and institutional self renewal in a no growth situation.

XVI. COD Annual Meeting

The Board reviewed the proposed COD Annual Meeting Activities: Its Business meeting agenda, the Joint VA/COD meeting and the COD-GSA-GME meeting on Assessment Programs.

XVII. Adjournment

The Meeting was adjourned at 4:00 p.m.

* * * * *

The joint luncheon meeting of the three council administrative boards consisted of a discussion with Association Counsel regarding potential legal actions available with respect to the release of impounded funds and more equitable treatment of the reimbursement of teaching physicians under H.R. 1, Section 227.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES
MINUTES
ADMINISTRATIVE BOARD OF THE COUNCIL OF DEANS

November 5, 1973
12:00 - 1:30 p.m.
Olympic Room, Hilton Hotel
Washington, D.C.

PRESENT:

(Board Members)

J. Robert Buchanan, M.D.
Ralph Cazort, M.D.
Andrew Hunt, M.D.
William Mayer, M.D.
Sherman M. Mellinkoff, M.D.
Emanuel M. Papper, M.D.
Robert L. Van Citters, M.D.

(Staff)

Marcia Collett
Amber Jones
Joseph A. Keyes
Marjorie P. Wilson, M.D.

ABSENT:

Clifford G. Grulee, M.D.
William Maloney, M.D.

I. Call to Order:

The meeting was called to order at 12:20 p.m.

II. Action Items:

Three items were considered upon at the meeting:

- A. The agenda for the Council meetings to follow with the object of ensuring that the Board members understood and were prepared to discuss the agenda items.
- B. A resolution referred to it regarding a proposed Assembly position on hypertension and its treatment; the Board declined to forward the resolution to the resolution's committee for its consideration.
- C. A request of the Administrative Board of the Organization of Student Representatives that its chairman receive a standing invitation to attend the COD Administrative Board Meetings.

III. Adjournment

The Meeting was adjourned at 1:35 p.m.

Review of the Executive Committee Retreat - Consideration of
the Association's Priorities for the Coming Year

Attached is a listing of the items covered in the AAMC Executive Committee Retreat. Recommended Association priorities for the coming year will be an important outcome of that meeting to be reviewed at the Board and Executive Council Meetings.

RETREAT AGENDA

Page

Wednesday Evening, December 5

Cocktails and dinner - 6:30 pm - 8:30 pm

Convene 8:30 pm - 10:30 pm

I. Review of Ongoing Programs (Annual Report)

Thursday Morning, December 6

Breakfast - 8:00 am - 9:00 am

Convene 9:00 am - noon

II. Policy Issues

A. National Health Policy.	1
B. National Health Insurance	5
C. Research	
1. Manpower.	13
2. Peer Review	13
3. Distribution of Support	14
4. Ethics.	14
5. NIH Oversight Hearings.	15

Coffee Break

D. Financing of Medical Education	18
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Lunch noon - 1:00 pm

Thursday Afternoon 1:00 pm - 5:00 pm

E. Modifying the Characteristics of the Process & Output of Medical Education	
1. Number of M.D.'s	38
2. Specialty Distribution	39
3. Geographic Distribution	41
4. Education of the Health Care Team	42

F. FMG's	43
G. Categorical Education	44
H. Quality of Care	
1. Continuing Education	45
2. PSRO	47
I. Expansion of Accreditation Activities	
1. Physician Assistants	48
2. Allied Health	54
3. Continuing Education	61

Coffee Break

III. Constituent Issues

A. Consortia Development	63
B. New Schools and Institutional Arrangements	64
C. Public Hospitals & Limited Affiliates	66
D. Reporting State Level Developments	67

Cocktails - 5:00 pm - Dinner- 6:30 pm

Friday Morning, December 7

Breakfast - 8:00 am - 9:00 am

Convene 9:00 am - noon

IV. Liaison with Other Organizations

- A. CCME, LCME, LCGME
- B. AMA, AHA
- C. AAHC, Federation, Dentists, Nurses, etc.
- D. Federal Agencies
 - 1. DHEW (NIH, SSA, BHRD, etc.)
 - 2. VA
 - 3. White House, OMB
 - 4. Congress

Coffee Break

V. 1974 Annual Meeting 68

A. Theme

B. Format

Lunch & Adjournment - noon - 1:00 pm

AAMC COMMITTEE ON HEALTH MANPOWER

The Executive Council appointed the AAMC Committee on Health Manpower to develop an Association response in view of the approaching expiration on June 30, 1974, of the various authorities in the Comprehensive Health Manpower Training Act of 1971, the basic legislation dealing with federal support of health professions education. The Committee has completed its work and has prepared a report for consideration by the Executive Council. The report is to be distributed as a separate document.

The members of the committee who participated in its activities were Julius R. Krevans, M.D., Dean, University of California-San Francisco School of Medicine; Merlin K. DuVal, M.D., Vice President for Health Sciences, The University of Arizona College of Medicine; David R. Hawkins, M.D., Chairman, Department of Psychiatry, University of Virginia School of Medicine; Morton D. Bogdonoff, M.D., Chairman, Department of Medicine, The Abraham Lincoln School of Medicine; Sidney Lewine, Director, Mount Sinai Hospital of Cleveland; John C. Bartlett, Ph.D., Associate Dean for Health Affairs and Planning, University of Texas Medical School-Houston; Hugh E. Hilliard, Vice President for Finance and Treasurer, Emory University School of Medicine; and Bernard W. Nelson, M.D., Associate Dean for Medical Education, Stanford University School of Medicine. Dr. Krevans served as Chairman of the committee.

In authorizing appointment of the committee, the Executive Council charged it with reviewing the expiring authorities of the Comprehensive Health Manpower Training Act of 1971 and with recommending to the Executive Council appropriate modifications which the Association should support in working with Executive and Legislative officials on the extension of the expiring authorities. The committee met twice in Washington, D.C., on November 3, 1973, and on November 13, 1973. In its work, the committee reviewed the present federal health professions education assistance programs, the progress to date of the AAMC Committee on the Financing of Medical Education, and the provisions of known legislative proposals on health professions education assistance. The committee agreed to certain principles which should underlie the federal role in health professions education and developed a set of recommendations based on those principles.

Its report sets out the committee's principles and recommendations and provides some additional explanatory material the committee considered useful in understanding fully its positions.

RECOMMENDATION: That the COD Administrative Board endorse the report of the AAMC Committee on Health Manpower as the basis for developing Association testimony on federal assistance to health professions education.

AAMC Committee on Health Manpower

Report

Introduction

The Executive Council appointed the AAMC Committee on Health Manpower to develop an Association response in view of the approaching expiration on June 30, 1974, of the various authorities in the Comprehensive Health Manpower Training Act of 1971, the basic legislation dealing with federal support of health professions education.

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This report sets out the committee's principles and recommendations and provides some additional explanatory material the committee considered useful in understanding fully its positions.

Principles

The AAMC Committee on Health Manpower believes the following principles should guide the federal role in health professions education.

There should be --

1. Stable, continuing, fiscally responsible federal support for medical

schools' educational activities, special projects and initiatives, student assistance, and capital expenses;

2. First-dollar capitation support of the undergraduate educational activities of the medical schools;

3. Project-grant support for special projects and initiatives reflecting national priorities and special emphasis fields;

4. Direct loans and scholarships to help meet student financial needs, with options for voluntary participation in loan forgiveness programs or service-obligation scholarship programs; and

5. Grants and loan guarantees with interest subsidies to meet physical plant replacement needs and to develop or expand new types of facilities such as ambulatory care facilities.

Recommendations

The AAMC Committee on Health Manpower recommends that legislation embodying those principles should be developed that provides fiscally responsible levels of funding in line with overall national priorities and that encourages prudent institutional planning over a five-year period beginning July 1, 1974.

The committee's specific recommendations follow, grouped under headings of institutional support, special projects, student assistance and capital support:

Institutional support

1. Delete the present capitation formula for schools of medicine, osteopathy and dentistry and substitute a new formula of \$6,000 per student per year, regardless of the length of the curriculum or the type of training the student is undertaking.

2. Provide the capitation support as an entitlement with no separate authorization of appropriations.

3. Delete present provisions on enrollment bonus students.

4. Delete the present enrollment increase requirement.

5. Retain the present maintenance of effort provisions.

6. Delete the present provisions requiring a plan of action in certain areas as a condition of obtaining capitation support.

7. Extend unchanged the present programs of start-up and conversion assistance.

8. Extend unchanged the present program of financial distress grants and authorize appropriations of \$10 million per year (fiscal 1974 level).

Special projects and initiatives

1. Delete the following present programs: special projects, health manpower education initiative awards, grants to hospitals for family medicine training, capitation grants for graduate training in certain specialties, grants for health professions teacher training, and grants for computer technology health care demonstrations.
2. Substitute for those programs a new, consolidated program of special initiative awards under which the HEW Secretary could award grants and contracts for carrying out projects in three broad areas: (1) health professions education development; (2) special national emphasis programs; and (3) health care practice and the use of health care personnel.
3. Authorize the appropriation of such sums as may be necessary, and provide that appropriated funds are to remain available until expended.

Student assistance

1. Increase the present \$3,500 loan ceiling to \$4,500 per student per year.
2. Delete the present loan forgiveness formula and substitute a new formula providing 100 percent forgiveness for two years' service in a designated area.
3. Authorize appropriations of \$70-\$75-\$80-\$85-\$90 million (15,000 students currently aided at \$4,500 per year, plus growth of need for loans).
4. Delete the loan program for U.S. students abroad.
5. Increase the present \$3,500 health professions scholarship ceiling to \$4,500 per student per year.
6. Delete the present entitlement formula and substitute a new formula of \$4,000 times the greater of one-tenth the number of full-time students or the number of students from low-income backgrounds.
7. Delete the health professions scholarship program for U.S. students abroad.
8. Increase the present \$5,000 physician shortage area scholarship ceiling to \$6,000 per student per year.
9. Delete the present shortage-area service requirement and substitute a new service requirement of two years in a designated area regardless of the time support was received.
10. Authorize appropriations of \$13.5 million per year (5-percent student participation).

Capital support

1. Authorize appropriations, for medical schools alone, of \$200 million per year, and provide that appropriated funds are to remain available until expended. Participation of other schools will raise the funding level.
2. Delete the enrollment increase requirement.
3. Extend unchanged the present loan guarantee and interest subsidy program, including the present appropriations limitation for interest subsidies of \$24 million.

Commentary

The AAMC Committee on Health Manpower believes there is an appropriate role for the federal government in helping to meet some of the costs of undergraduate medical education. Undergraduate medical education is composed of interacting elements integral to a unified process leading to the M.D. degree. The elements of this process are the instructional activities covering the imparting of disciplinary and interdisciplinary subject matter through lectures, seminars and laboratory exercise; participation in the care and management of patients; and training in research methods for the solution of problems in health. The cost of the elements is high, and in the past has been shared by the federal government, state and local governments, medical schools themselves through tuition and endowment income, private foundations and others. The federal role has been justified because of the national mobility of physicians and because of an underallocation of resources to medical education by the private sector. In seeking an appropriate federal share, the committee agrees with the report of the Senate Committee on Labor and Public Welfare, accompanying the Comprehensive Health Manpower Training Act of 1971: "The bill ... entitles each educational institution to an award intended to cover approximately one-third of the average per-student educational costs incurred nationally by such institutions The costs of research and the

costs of patient care are integral to per-student costs of the institution. And ... they shall be included in the calculation of costs for the purpose of applying for their entitlement grant."

The AAMC Committee on Health Manpower believes there is a federal interest in the financial viability of medical schools as institutions, in equalizing financial opportunities for medical education, and in carrying out certain nationally determined special projects for which medical schools are particularly well suited.

Institutional support

Beginning with the White House Conference on Aging during the midyears of the Eisenhower Administration and continuing to the present, there is a growing agreement that access to health care is a right. This is a concept that has been endorsed by important political figures of both parties in both the House and the Senate; it was included as part of President Nixon's health message to Congress in February 1971; and it was a main theme of a White Paper issued by the Department of Health, Education and Welfare in 1971: Towards a Comprehensive Health Policy for the 1970s. This concept carries with it implications which are crucial to understanding the federal role in support of the undergraduate medical education activities of medical schools.

There is no way in which the right of access to adequate health care can be claimed or delivered without trained health personnel. Since the public has a claim for access to adequate health care, it must follow then that the public has a legitimate interest in sustaining the production of health personnel. Because of the setting in which education in the health professions is conducted, the educational expense is necessarily a joint product. This fact

means that the expenses of the environment of a health professions education are the integrated expenses of instruction, research and medical service. This is so because health professionals are educated in an academic environment, by the research and development arm of the medical profession, some would say, rather than undergoing an apprenticeship process in which they are educated directly by practicing physicians.

Recognizing the issues of joint costs, the federal government in 1971 put in place a program which called for direct support of the education activities of health professions schools through a capitation grant. Through this device, the government acknowledged the legitimate public interest in the continuity and integrity of health professions educational institutions. The capitation grants have enabled the schools to respond to the need for increased numbers of health professionals. In doing so, the schools have expanded their facilities and have made commitments to new faculty and new programs which now must be sustained if the objectives are to be achieved. In addition, through the device of capitation, the government recognized the value of the establishment of a creative partnership between itself and the academic health centers for the purpose of permitting leverage through which national purposes could be achieved.

The recommendations of the AAMC Committee on Health Manpower that capitation support be extended for five years, that the level of capitation be set at \$6,000 per student per year, that capitation be an entitlement, and that capitation no longer be tied to enrollment increases are based on the following factors.

1. The \$6,000-per-student-per-year capitation level corresponds with approximately one-third of the average of the annual cost per student for the elements of instruction, research and medical service at 12 schools studied by the AAMC Committee on the Financing of Medical Education. Further, adjusting the present \$2,500-per-student-per-year capitation level, which was based on 1969-70 data, for rising costs projected to the midpoint of a five-year program of support also approaches \$6,000 per student per year, when allowances are made also for rising research and medical service costs. Significantly increased capitation levels are needed also to help offset declines in other support, such as research training and the practice income from clinical faculty. The Committee wishes to point out that while a \$6,000 capitation level may appear significantly higher than the present \$2,500 level, the \$6,000 level is only modestly increased over the level recommended in 1971 by the Association when the present legislation was under consideration. The \$2,500 level is one determined by the Congress. The Association's 1971 capitation recommendation was \$5,000, which, if adjusted upward for rising costs, stands at \$6,000 in current dollars.

2. Converting the program to an entitlement and extending it for five years act together to encourage rational institutional planning, based on the program's continuity and predictability of support. With short-lived programs and fluctuating support levels, rational institutional planning is impossible.

3. Abandonment of the mandatory enrollment increase does not prejudice the issue of manpower supply. The facts are that since 1963 when federal aid to health professions schools was initiated, the number of schools has increased from 87 to 114; enrollment has increased from 32,001 to 47,259; and graduates

have increased from 7,336 to 10,000 per year. At the same time, new kinds of health personnel and new kinds of health care delivery are being developed. It is impossible to determine the adequacy of the present health personnel supply. Major increases in M.D. production have occurred, and other changes in health care are also underway. The AAMC Committee on Health Manpower feels strongly that the effect of these changes should be observed closely during the next five years before setting new incentives to alter the supply of health manpower.

Special projects and initiatives

There is a useful role for the project-grant approach to financing selected activities in health professions schools. This approach recognizes the incremental cost to the school of such a project and clearly separates the financial support for the project from the general pool of financial support for the basic undergraduate medical education program. Special projects serve as a vehicle for the health professions schools to participate in constructive change in the interest of improving the health and health professions education of the nation. Competitive rather than formula awards strengthen the entire health professions education system by ensuring heterogeneity; homogeneity would produce rigidity and resistance to any change. Competitive awards also allow research and demonstrations without total system involvement.

A problem with the current programs is that they have proliferated over time into an almost unintelligible patchwork of authorities whose complexities pose problems for both applicants and administrators. The AAMC Committee on Health Manpower Education therefore proposes a simplified program of special initiative awards which would permit the federal government to select

its own priority projects, the institutions or combinations of institutions to carry them out, and the levels of funding at which the government wished to support its priority projects. For this reason, the AAMC Committee did not recommend any specific levels of funding, although the AAMC is prepared to work with others in determining appropriate levels.

Student assistance

The Association of American Medical Colleges is committed to the goal that there should be equality of opportunity for students wishing to attend medical school. A major barrier denying equal opportunity is the high cost of medical education that must be borne directly by the student. The existing health professions education assistance legislation traces its origin to student aid programs designed specifically to assist the socioeconomically disadvantaged student in entering medical school. The health professions loan program and the health professions scholarship program have constituted a major source of student aid for medical students. Since their implementation, the medical profession has been enriched by the addition of students with a greater diversity of socioeconomic backgrounds.

During the past five years, American medical schools have made substantial progress in improving the representation of minority groups in medical school programs. The enrollment of minority groups in the fall of 1973 is 7.4 percent of the first-year enrollment. The AAMC has adopted a goal of 12-percent minority representation in entering classes by September 1975. The AAMC reiterates its belief, as did the AAMC Task Force to the Inter-Association Committee on Expanding Educational Opportunities in Medicine for Blacks and Other Minority Students in 1970, that financial assistance in the form of grants and loans is a critical factor if these goals are to be achieved. Without scholarship support

the acutely disadvantaged are forced to borrow sums of money that may exceed the earnings of the entire family. Many are persuaded that the risk of such a debt is too great for them to take -- an assessment frequently reinforced by the family's experience with past debts.

Equally fundamentally, an emphasis on loans focuses student attention on the future earnings of the physician. Thus it would be predictable that the student's interest in earning large sums of money would be reinforced by his need to borrow large sums as a student. This is not a desirable characteristic to be sought in students; and it is detrimental to the efforts of the country to develop a physician population interested in developing modes of practice that are less costly to the patient and to the nation.

The AAMC believes that the success of continuing efforts to recruit individuals from minority backgrounds into the medical profession will depend on the continuation of federally sponsored scholarship and loan programs for medical students. In particular, scholarship funds are needed to insure the representation of minority groups and the representation of students from socioeconomically disadvantaged backgrounds. These students enter medical school with large debts incurred during their undergraduate years. These debts, coupled with the debts incurred during medical school, make it commonplace for a student to leave medical school with debts of \$15,000 or higher.

It has been suggested that educational debts of a medical student could be forgiven in return for practice in designated areas or that scholarships should be made available on condition that the recipient later practice in a designated area. The AAMC has no objection to this approach, provided that it is offered as an alternative to a non-obligatory assistance program and provided further that participation is voluntary.

There is a great diversity of talent and ability among the socioeconomically disadvantaged, and these skills and abilities should be matched with the diversity of opportunity in medicine. The Association does not believe that a loan program that indentures a student to a particular form or area of practice is consistent with the goal of achieving equality of educational opportunity. Many of the proposals for the forgiveness of debt for practice in underserved areas restrict the participant to a fixed professional pathway. Over the long term, the Association does not believe that such an approach will attract to the profession the diversity of talent needed to meet society's needs. The Association believes there is a role for different and multiple approaches to the problem of financing the student costs of medical education.

The debt of students entering medical school is growing rapidly and is commonly underestimated. The Association believes that a limit on the amount of debt assumed by a student to meet the expense of attending college and medical school is reasonable. Excessive debt will reinforce the trend toward higher physician income. The Association believes it is only logical for physicians to focus their attention on higher fees if the government endorses the view that the future earnings of physicians should serve as the source of funds for repayment of educational expenses.

Loan guarantees as a sole source of debt financing of health professions education are unacceptable, although they may be offered in addition to a program of direct loans. A loan guarantee program, subject to the vagaries of the money market, removes from the educational institution all judgment concerning the individuals to whom loans are made, as well as the amount loaned, and places such judgment in the banks.

The AAMC Committee on Health Manpower recommends increasing the health professions loan and scholarship ceilings in recognition of rising medical student expenses, now estimated at between \$4,000 and \$5,000 per student per year. The shortage area scholarship ceiling was raised in an effort to make the program more attractive. Service periods were stabilized at two years to equalize the burden of service to participating students and to provide a uniform period of career interruption, intended to facilitate improved career planning.

Capital support

The appropriateness of a federal role in the construction and maintenance of medical school facilities parallels the federal role in the support of undergraduate medical education. And, as in the case of undergraduate medical education, the cost of capital expansion also is shared by the federal government, state and local government, the institution itself, and various private and other outside sources.

The recommendations of the AAMC Committee on Health Manpower include continued grant support because teaching facilities are inherently cost-generating rather than income-producing. As a result, income from the operation of such facilities can not be used to amortize the cost of the facility. Thus debt financing for such facilities is totally inappropriate. At the same time, other types of facilities, such as ambulatory care centers, are potentially income-generating, and thus could produce funds which could be applied to offset debt financing. For that reason, the committee also recommended continuing the program of loan guarantees and interest subsidies. The committee's recommended funding levels are based on a professional judgment of an appropriate federal share of the cost of maintaining the existing physical plant of the schools, plus an allowance for new construction of ambulatory care facilities needed for the expanding number of primary care programs being established by academic health centers.

POLICY FOR RELEASE OF AAMC INFORMATION

The proposed policy for the release of AAMC information has been developed by staff, with the advice of the Data Development Liaison Committee. The Committee recommends it to the Executive Council. It has also been reviewed by the OSR and by the Student Records Committee of the Group on Student Affairs, both of which have endorsed it.

Recommendation: That the COD Administrative Board endorse the proposed policy for release of AAMC information.

PROPOSED POLICY FOR RELEASE OF AAMC INFORMATION

It is the responsibility of the AAMC to make information on American medical education available to the public to the greatest extent possible, subject to limitations imposed by the sources of the data collected and by law.

Data collected by the Association will be owned and maintained by the Association for the benefit of medical education.

Data in the possession of the Association will be classified according to permitted access using the following categories:

- I. Unrestricted - may be made available to the general public.
- II. Restricted - Association confidential -- may be made available to member institutions and other qualified institutions, organizations and individuals subject to the discretion of the President.
- III. Confidential - A) Institutional - Sensitive data collected concerning individual institutions generally available only to staff of the Association. It may be released with permission from the institution; and B) Personal - Sensitive data collected from individual persons generally available only to staff of the Association. It may be released with permission from the individual person.

Classification will be guided by a group of individuals broadly representative of the Association's constituency. No information will be released which could be identified with an institution unless reported or confirmed by that institution.

The Association will always be willing to disclose to the individual institution or individual person any data supplied by that institution or person.

In those cases where, as a result of collection by another organization, data is owned wholly or in part by the other organization, the data would be classified in one of the above categories so far as the AAMC is concerned, but additional restrictions imposed by the other organization may also be necessary.

INTERPRETATIONS AND COMMENTS

Data made public by the individual person or individual institution (as in the case of school catalogues, Who's Who, and news released to the press), will be classified as unrestricted.

When confidential or restricted data is aggregated, it generally becomes less sensitive. Thus, data related to groups of individuals or groups of institutions might be less restricted than the same data elements related to individuals.

In accordance with the above policy, restricted data concerning individual institutions or individual persons can be provided to scholars or institutions at the discretion of the President. The staff would try to verify the worthiness of the purpose and bona fides of the organization or individual scholar in such cases, and would insist upon assurances that any result in publication would adhere to Association policies restricting individual identification.

The intended classification of each element of data will be identified on the data collection instrument itself, so that the respondent will know what will be done with the information provided.

It is recognized that a general decision to identify an item as public or restricted, even though it represents a consensus of the constituency, may still lead some individuals to refuse to supply the data.

CLASSIFICATION OF SALARY STUDY INFORMATION

The Data Development Liaison Committee considered the question of classification of statistics developed from the annual salary survey of the Association, and the committee came to the following conclusion:

"Descriptive statistics of the Salary Study should be classified as public information so long as individuals or institutions are not identified by these statistics."

The public classification is necessary, if statistics are to be published in the Journal of Medical Education. Median salaries by rank and by department have been published in the Journal in the past, without identifying individual institutions, and the possibility of publishing an additional 25th and 75th percentile range is under consideration.

The detailed distribution has been published in the past and sent only to deans of medical schools, with a label of "confidential". If the new release policy is adopted, there would be no basis for a confidential classification for this report, since no individual or institution is identified. Indeed, our past policy has been subject to criticism from some of our academic societies who conduct independent salary surveys and have not had access to the "confidential report". Staff plans to produce a more compact report for the present year, including some high and low percentile information, but without the extremes of salary. The report would then be made available to any member of the Council of Deans, Council of Academic Societies, or Council of Teaching Hospitals.

Recommendation: That the COD Administrative Board endorse the Data Development Liaison Committee request that the Executive Council confirm public classification for statistics from the annual Faculty Salary Survey.

ACTION TAKEN BY THE CCME ON THE BYLAWS AND AMENDMENTS TO THE
BYLAWS OF THE LCGME

The Liaison Committee on Graduate Medical Education, at its meeting on November 20, 1973, approved several changes in its proposed Bylaws, which had been forwarded, after its meeting on September 11, to the Coordinating Council on Medical Education for its consideration and recommendations to its member organizations.

The changes cover a revision of the proposal to add a representative of the house-staff organizations to the Liaison Committee, the addition of a section on the payment of expenses of subcommittees, and a revision of the procedure for handling appeals. In the following pages, the additions to the Bylaws are shown in italics, and words deleted from the actual Bylaws are lined out.

At the CCME meeting of November 26, 1973, the amendments to the Bylaws were accepted and the Bylaws approved. It was agreed that the minutes would reflect that the CCME does believe that accreditation action by the LCGME is final.

Recommendation: It is recommended that the COD Administrative Board review the LCGME Bylaws and recommend an appropriate action to the Executive Council.

E.C.-

PROPOSED BY-LAWS
OF THE
LIAISON COMMITTEE ON GRADUATE MEDICAL EDUCATION

Foreword

These by-laws are based on and intended to conform to the previously adopted statement entitled: "A proposal for the establishment of the Liaison Committee on Graduate Medical Education, as developed from the five points of agreement by the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Council on Medical Specialty Societies on January 25, 1972, in Washington, D.C."

Article 1 - NAME

The name of this organization shall be the Liaison Committee on Graduate Medical Education.

Article II - PURPOSE, OBJECTIVE, AND FUNCTIONS

Section 1. Purpose. The purpose of the Liaison Committee on Graduate Medical Education is to accredit programs in graduate medical education.

Section 2. Objective. The objective of the Liaison Committee on Graduate Medical Education is to develop the most effective methods to evaluate graduate medical education, to promote its quality, and to deal with such other matters relating to graduate medical education as are appropriate.

Section 3. Functions. The Liaison Committee shall:

- (a) Develop standards and criteria common to all programs in graduate medical education for approval by the Coordinating Council on Medical Education;
- (b) Approve specific guidelines provided by the individual residency review committees;
- (c) Establish general standards and criteria for evaluation of programs in graduate medical education;
- (d) Recommend and initiate studies pertinent to improving the organization and conduct of programs in graduate medical education;

Section 3. Functions (continued)

- (e) Receive and consider proposals for new types of programs in graduate medical education for which accreditation is being sought;
- (f) Review periodically the criteria by which programs of graduate medical education are evaluated;
- (g) Provide a means whereby programs in graduate medical education may appeal adverse decisions;
- (h) Receive from and provide information to the public and the government concerning the evaluation and accreditation of programs in graduate medical education;
- (i) Initiate studies and recommend policy to keep programs in graduate medical education responsive to public and social needs.

Article III - MEMBERSHIP

Section 1. Membership on the Liaison Committee shall consist of the following number of representatives from the member organizations:

American Board of Medical Specialties	4 Representatives
American Hospital Association	2 Representatives
American Medical Association	4 Representatives
Association of American Medical Colleges	4 Representatives
Council of Medical Specialty Societies	2 Representatives

In addition, one public member, and one representative of the Federal Government, and one representative of the house-staff organizations shall serve on the Liaison Committee.

Section 2. Each organization so designated shall select its representatives in the manner it chooses, but each is urged, insofar as possible, to designate staggered terms to provide continuity of service.

The public member shall be selected by the members of the Liaison Committee.

The representative from the Federal Government shall be designated by the Secretary of the Department of Health, Education, and Welfare

The representative from the house-staff organizations shall be designated by a liaison committee established by the AMA Intern and Resident's Business Session and the Physicians National Housestaff Association.

Section 3. Representatives of the professional organizations shall, except for the initial formation of the Liaison Committee, be appointed for three-year terms, with a maximum of six consecutive years.

The professional organizations shall notify the Secretary of the Liaison Committee at least one week prior to any meeting for which a new representative has been designated.

Additional organizations may be represented on the Liaison Committee by unanimous approval of the current sponsoring professional organizations.

The public member shall be elected annually, with a maximum of six consecutive terms.

The Federal Representative shall serve at the discretion of the appointing official.

The house-staff representative shall serve a two-year term, and must be a house officer at the beginning of his appointment but need not necessarily be a house officer for the full extent of the two-year term.

Article IV - OFFICERS

Section 1. The positions of Chairman and Vice-Chairman shall rotate, on an annual basis, among the parent organizations according to a schedule determined by the Liaison Committee.

Section 2. The officers shall be named by their respective organizations.

Section 3. The new officers shall take office at the conclusion of each annual meeting.

Section 4. The term of office shall be one year.

Section 5. Primary staff and secretarial services for the Liaison Committee shall be provided, for the time being, by the American Medical Association, with staff assistance provided by other members of sponsoring professional organizations as shall from time to time be deemed appropriate and necessary.

Article V - MEETINGS

Section 1. The Liaison Committee shall hold meetings on a basis that is felt to be appropriate by the membership of the Committee, with at least three meetings a year.

Section 2. The first meeting of each calendar year shall be considered the Annual Meeting.

Section 3. A majority of the members of the Liaison Committee shall constitute a quorum, provided representatives from at least three of the five professional organizations are present.

All designated members present at a meeting shall have the right to vote.

Section 4. Special meetings may be called by the Chairman or at the written request of any five (5) members of the Liaison Committee representing a minimum of at least three (3) of the five (5) parent organizations. The purpose of such Special meetings shall be stated in the call. At least twenty-one (21) days' written notice shall be given for a Special meeting.

Article VI - COMMITTEES

Section 1. The Chairman shall appoint standing or special committees for the Liaison Committee as shall from time to time be deemed necessary to carry on the work of the Committee.

Section 2. The Chairman shall appoint a finance committee to consider the financial support of any activities involving expenditures of the Liaison Committee beyond those in Article VII.

Article VII - FINANCES

Section 1. The expenses of Liaison Committee representatives from the various organizations shall be borne by those organizations.

The expense of the public member shall be shared equally by the professional organizations.

The expense of the representative of the Federal Government shall be borne by the Federal Government.

The expense of the representative of the house-staff organizations shall be borne by the house-staff organizations.

Section 2. *The expenses of members and others who are asked to serve on subcommittees of the Liaison Committee shall be paid by the Liaison Committee and shared on a pro rata basis by the member organizations. Persons other than those named to the subcommittee or those named to staff the subcommittee may attend meetings of subcommittees, but expenses of such persons will be borne by their sponsoring organizations.*

Section 23. Unless otherwise provided for by the finance committee, expenses above those incurred by the representatives of the professional organizations shall be shared on a pro rata basis by the professional organizations.

Article VIII - MODUS OPERANDI

Section 1. Accreditation. The Liaison Committee shall take action on the accreditation of each individual program following receipt of the recommendation from the appropriate residency review committee.

Section 2. Monitoring. Individual members of the Liaison Committee shall receive and review the full minutes of all residency review committees.

- (a) The membership of the Liaison Committee shall be divided into four groups, each of which shall be assigned a proportionate number of programs by specialty areas for review of the program recommendations of the residency review committees.
- (b) The files of all identified problem cases shall be scrutinized by the assigned groups. These shall include all programs that have been on probation for periods of time considered excessive by members of the Liaison Committee on Graduate Medical Education.
- (c) The Liaison Committee shall review all programs requested by the residency review committees.

Section 3. Appeals. Programs may appeal adverse decisions.

- (a) It is expected that a program will request reconsideration by its Residency Review Committee as the initial step in any consideration of an adverse decision.
- (b) Following this, *if approval has been withdrawn or withheld*, the program may then appeal directly to the Liaison Committee. The Chairman shall appoint at least ~~four~~ *three* members of the *Liaison Committee on Graduate Medical Education* who have not been previously involved in the review process of that program *and such additional consultants as appropriate who will be representative of the specialty under review*. Representatives of the program and of the Residency Review Committee shall be entitled to appear before the appeal hearing board.
- (c) The final decision shall be made by the Liaison Committee after receiving the recommendations of the appeal hearing board. *Any* members of the Liaison Committee who made the adverse decision or concurred in the adverse decision of the Review Committee would not participate in the final decision.

Section 4. Review of the Mechanism of Residency Review Committees.

- (a) Basic Essentials and Other Policy Matters: Approval of "Essentials" relating to graduate training programs is the responsibility of the Liaison Committee on Graduate Medical Education, to which the Coordinating Council on Medical Education has delegated consideration of additions, revisions, and deletions. Major policy decisions, however, after discussion by the Liaison Committee, shall be forwarded to the Coordinating Council on Medical Education for its consideration. The Liaison Committee would determine the order and manner in which approval would be sought of the parent bodies involved in the production of the "Essentials."

Article IX - PARLIAMENTARY AUTHORITY

Section 1. The rules contained in the current edition of Sturgis' Standard Code of Parliamentary Procedure shall govern the Liaison Committee in all cases to which they are applicable and in which they are not inconsistent with these by-laws and any special Rules of Order the Liaison Committee may adopt.

Article X - AMENDMENTS

Section 1. These By-Laws can be amended at any regular meeting of the Liaison Committee by a two-thirds vote of the members of the Liaison Committee present, provided that the amendment has been submitted in writing and has been read at a previous meeting.

AAMC RECOMMENDATIONS ON
MEDICAL SCHOOL ACCEPTANCE PROCEDURES

The Association's Medical School Admission Requirements publication includes AAMC recommendations on medical school acceptance procedures. To recognize recent developments in medical school admissions, the Association's Group on Student Affairs has revised these procedures and submitted them for Executive Council approval.

Recommendation: That the COD Administrative Board recommend that the Executive Council approve the attached six points as AAMC recommendations on medical school acceptance procedures.

AAMC RECOMMENDATIONS ON
MEDICAL SCHOOL ACCEPTANCE PROCEDURES

For the information of prospective medical students and their advisers, the recommended procedures for offering acceptance to medical school and for student responses to those offers are printed below:

1. Each medical school should prepare and distribute to applicants and pre-medical advisers a detailed schedule of its application and acceptance procedures, and should adhere to this schedule unless it is publicly amended.
- *2. An applicant should be given at least two weeks to reply to an offer of admission: After that time, an applicant may be required to file a statement of intent, or a deposit, or both. The statement of intent should provide freedom to withdraw if the applicant is later accepted by a school which he or she prefers; and the deposit, which should not exceed \$100, should be refundable without question. The refundable deposit may be credited against tuition charges if the applicant matriculates in the school.
- *3. No medical school should use any device which implies that acceptance of its offer creates a moral obligation to matriculate at that school. Every accepted applicant should be free to deal with all schools and to accept an offer from any one of them even though a deposit has been paid to another school. On the other hand, every accepted applicant retains under all circumstances an obligation to notify a school promptly of a decision not to accept its offer, and to withdraw at once if, after accepting an offer from one school, the applicant receives and accepts an offer from another school.
4. Each school is free to make appropriate rules for dealing with accepted applicants who, without adequate explanation, hold one or more places in other schools. These rules should recognize the problems of the student who has multiple offers and also of those applicants who have not yet been accepted.
5. Subsequent to June 1, a medical school seeking to admit an applicant already known to be accepted by another school for that entering class should advise that school of its intent. Because of the administrative problems involved in filling a place vacated just prior to the commencement of the academic year, schools should communicate fully with each other with respect to anticipated late roster changes in order to keep misunderstandings at a minimum.
6. After an applicant has actually enrolled at a U.S. medical school, no further acceptances should be offered to that individual. Once enrolled in a school, students have an obligation to withdraw their applications

promptly from all other schools. Enrollment is defined as being officially registered at a school on or subsequent to the formally publicized starting date for the first year class of that school.

*Most of these two procedures do not pertain to students accepted under the Early Decision Plan (EDP) because such students agree in advance to attend a given medical school if offered a place during the "Early Decision" segment of the application year.

Table 3.4

Recommended Acceptance Procedures of the
Association of American Medical Colleges

For the information of prospective medical students and their advisers, the recommended procedures governing medical school acceptance offers and student's response to those offers are printed below.

1. No offer of admission to medical school should be made to an applicant more than one year before he will enter the course of instruction offered by the medical school.*
2. When an offer is made to an applicant, he should have not less than two weeks in which to reply.
3. A student receiving an offer may be required to file within two weeks a statement of intent, or a deposit, or both. The statement of intent should leave the student free to withdraw if he is accepted by a school he prefers; and the deposit, which should not exceed \$100, should be refundable without question. The refundable deposit may be credited against tuition charges if the student matriculates in the school.
4. Each medical school should prepare and distribute to applicants and college advisers a detailed schedule of its application and acceptance procedures, and should adhere to this schedule unless it is publicly amended.
5. No medical school should use any device which implies that acceptance of its offer creates a moral obligation to matriculate at that school. Every accepted applicant should know that he is free to deal with other schools and accept an offer from one of them even if he has paid a deposit to another school. Every accepted applicant does retain under all circumstances an obligation to notify a school promptly if he decides not to accept its offer to him, and to withdraw at once if, after accepting an offer from a school, he receives and accepts an offer from another school he prefers.
6. Each school is free to make appropriate rules for dealing with accepted candidates who hold one or more places in other schools without adequate explanation. These rules should recognize the problems of the student who has multiple offers, and also of those applicants who have not yet been accepted.
7. Subsequent to July 15, a medical school seeking to admit an applicant already known to be accepted by another school for that entering class should advise that school of its intent. Because of the administrative problems involved in filling a place vacated just prior to the commencement of the academic year, schools should communicate fully with each other with respect to anticipated late roster changes in order to keep misunderstandings at a minimum. *After an applicant has actually enrolled at a U.S. medical school, no further acceptances should be offered to that individual. In this connection, students have an obligation to withdraw their applications promptly from other schools when they enroll elsewhere, especially if their own school's classes start prior to September 1.*

*Under special circumstances a school may make an offer more than one year before the expected matriculation date to encourage the educational development of the student, but all such offers should state explicitly that the student is completely free to apply to other schools at the usual time.

Source = Medical School Admission Requirements, 1974-75

Policy Guidelines on Extramural Academic Experiences

The following material is largely self explanatory. It is an attempt by the staff, in cooperation with the GSA and GME, to propose "a modest level of systemization . . . to ensure that the quality of the educational experience [of students attending clerkships and course work at institutions other than their own] is not jeopardized and the student is not caught between differing medical school administrative practices." The need for the guidelines is suggested by the problems which have been experienced. The proposal is a refinement of the practices which have been developed over the past several years. At this time it is considered appropriate that these guidelines be given the endorsement of the COD Administrative Board to enhance their stature.

Recommendation: That the COD Administrative Board endorse the attached Guidelines.

Policy Guidelines on EXTRAMURAL ACADEMIC EXPERIENCES

I. INTRODUCTION

- A. Liberalization of curriculum structure and elective programs is enabling a growing number of medical students (particularly seniors) to seek clinical clerkship and didactic course experience in hospital and university settings other than their own. At present, it would appear that most schools respond favorably to such requests, resulting in a substantial movement of students from one medical center to another. The fluidity of the situation is such that the past tendency to handle extramural placements informally may no longer be feasible. Questions have been raised by Deans, GSA members, GME members and students concerning the adequacy of administrative handling of extramural educational experiences.
- B. Although the spontaneity and innovativeness of the extramural aspects of medical school curricula should be retained, the establishment of a modest level of systemization is desirable to ensure that the quality of the educational experience is not jeopardized and the student is not caught between differing medical school administrative practices. It is in this spirit that the following suggestions are made for policy relative to student participation in extramural courses or clerkships.

II. APPROVAL TO ENGAGE IN EXTRAMURAL COURSE OR CLERKSHIP

- A. Approval or disapproval to participate in an academic experience not under the direct control of the student's own medical school should be determined by a formal review procedure. Such a procedure should seek to assure that: 1) the planned program is consistent with the student's educational needs, 2) the program is truly available at the host institution, and 3) the host institution is willing to accept responsibility for the student's education.
- B. The reviewing procedure should provide written notification to both the student and the host institution as to whether approval has been granted.
- C. If approval is granted for an extramural activity, the following items will require precise definition:
 - 1. Dates of Attendance
 - 2. Supervisor(s)
 - 3. Academic Credit
 - 4. Procedure for Evaluation of Student Performance
 - 5. Financial Considerations:
 - a. Tuition
 - b. Financial Aid
 - c. Health Service Charge
 - d. Health Insurance
 - e. Liability Insurance
 - f. Room and Board

III. SUGGESTED POLICIES PERTAINING TO ITEMS REQUIRING PRECISE DEFINITION

- A. Tuition and Fees--The host school is encouraged to waive tuition and fees for courses or clerkships for students concurrently enrolled and paying fees in their home school.
- B. Financial Aid--The visiting student's potential source of financial aid will continue to be the home school rather than the host school.
- C. Health and Liability Insurance--1) All visiting students should have adequate health insurance through coverage provided either by group insurance at their home or host school or by their own individual insurance. This health insurance should supplement the routine care provided by the host university health service. 2) Liability insurance is of particular importance for those visiting students engaging in clinical clerkships and must likewise be provided by either the home or host school.
- D. Room and Board--If room and board is provided at the host university's dormitories, it should be provided on a pro rata basis so that visiting students are not charged for a full term or semester when they are in residence for shorter periods of time.
- E. Communication--The Dean of Students or comparable official at the home school should ensure that a letter transmitting the information in Section II(C) above is sent to the appropriate person at the host school, hospital or agency, and that a satisfactory response is received before the student is cleared for departure.

IV. CONCLUSION

- A. It is hoped that a reasonable application of these policies will keep to a minimum misunderstandings related to unexpected monetary charges, supervisory responsibilities and academic record keeping.
- B. An application blank for enrollment in an extramural course of clerkship was developed by the GSA during 1971 and is available for use and/or modification by any U.S. medical school. A copy of the application and of its explanatory memorandum of January 3, 1972 are attached.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

MEMORANDUM

January 3, 1972

TO: Admissions Officers Responsible for Medical Student Affairs
(GSA Code 2)

FROM: Roy K. Jarecky, Ed. D.
Associate Director
Division of Student Affairs

SUBJECT: Application for Extramural Course or Clerkship (AECC)

Burgeoning elective programs and the resultant increase in the flow of students among medical schools has intensified the need for a more standardized approach to application for and approval of extramural coursework and clerkships.

The enclosed sample application as developed during 1971 by the AAMC Group on Student Affairs (with initial impetus from its Committee on Educational Affairs), may be adapted as necessary for use by your institution. If used properly the AECC should serve to reduce misunderstandings concerning the details of extramural supervision, fees (if any), insurance coverage, and specific approval for the undertaking.

Instructions for the use of the AECC are as follows:

- I. Items 1 through 8, and 10 through 13 are to be completed by the Dean of Students (or comparable official) at the school at which the student is officially enrolled. The student then signs his name (Item 9), signifying acknowledgment that his request has been approved and that the elements of Item 10 are clearly understood. The AECC is then sent to the Dean of Students (or comparable official) of the school where the student is seeking the extramural course or clerkship, with a copy to the student.
- II. The Dean of Students (or comparable official) at the school to which the application has been directed completes Items 14 through 20 after consultation with the appropriate faculty committee and/or department. After making a copy for himself, the Dean of Students returns the original AECC to the individual who signed Item 11 and a copy directly to the student (note "cc" at bottom left-hand corner).
- III. The back of the form may be utilized as needed for special instructions, comments, et al.

We would appreciate any comments you may have about modification of the form as your experience suggests.

Encl

cc: Drs. Swanson, Tuttle, Green, Johnson and Bowles

W#8238

MEDICAL STUDENT
APPLICATION FOR EXTRAMURAL COURSE OR CLERKSHIP*

10. Faculty member who may supervise student during extramural course or clerkship:

1. _____ 2. Department of _____
(Faculty Member's Name)

(Exact Address, including Name of Medical School)

From: 4. Student's Name _____

5. Mailing Address _____

6. Currently enrolled as a _____-year student at _____ medical school

7. Specific course or clerkship for which application is made: _____

8. Inclusive dates of course or clerkship: _____ to _____

9. Signature of Student: _____ 9a. Date: _____

(The above signature indicates that he or she is applying for the course or clerkship entered in Item 7 and that he or she clearly understands the implications of such coverage limitations as may be noted in Item 10.)

10. Approval: (To be completed by Dean of Students (or comparable official) of the medical school where student is enrolled.)

The medical student named above is in good standing at this institution. He (will) (will not) pay tuition at our school during the period indicated. Malpractice insurance (does) (does not) cover the student away from our school. Personal health coverage (is) (is not) in effect away from our school. He is approved to take this clerkship (for credit) (not for credit). At the conclusion of the course or clerkship an evaluation report (will) (will not) be required. If required, our report form (copy attached) should be completed and returned within two weeks of the completion of the course or clerkship.

11. Signature: _____

12. Title: _____

13. Date: _____

14. Action: (To be completed by Dean of Students (or comparable official) of school where student is seeking to take extramural course or clerkship.)

Admission of the medical student named in Item 4 to the course or clerkship noted in Item 7 for the period specified in Item 8 (is) (is not) approved.

15. The student will report to:

Person: _____ Date: _____

Place: _____ Time: _____

16. Fees to be charged:

Tuition: \$ _____; Student Health Service: \$ _____; Malpractice Coverage: \$ _____

Other: \$ _____; (Specify Total Charge) \$ _____

17. Signature: _____

18. Title: _____

19. School: _____

20. Date: _____

____ of both partially completed
and fully completed form to
student applicant (Item 4)

(Comments on reverse side ☐ yes ☐ no)

* General format of application as suggested during 1971 by AAMC Group on Student Affairs.

REPORT OF THE AAMC COMMITTEE ON GRADUATE MEDICAL EDUCATION

The AAMC Committee on Graduate Medical Education, in providing the attached interim report to the Board, is seeking its advice and counsel regarding its preliminary thinking. The Committee will be providing input to the CCME in its deliberations on this problem.

REPORT OF THE AAMC
COMMITTEE ON GRADUATE MEDICAL EDUCATION

The AAMC Graduate Medical Education Committee met in Washington on November 12. A major consideration at this meeting was the role of education and training in influencing the distribution of physicians across the specialties. Five major points were agreed upon by the Committee:

1. There is a need to produce substantially more primary care physicians. Primary care is defined to include family practice, general medicine, and general pediatrics.
2. There is a need to produce fewer specialists and subspecialists.
3. Fifty (50) percent of the first-year residencies should be allocated to primary care training in ambulatory settings with responsibility for longitudinal care. This may be accomplished through:
 - a. The establishment of innovative and attractive primary care educational programs;
 - b. The elimination of poor quality residency programs in all categories through a more stringent accreditation process. Improving the accreditation process is a logical function of the LCGME.
 - c. The federal government, initially through a grant program to support initial development, and third-party payers, ultimately through providing for adequate reimbursement in the ambulatory care setting, can create and sustain a major shift toward more primary care training opportunities.

The increase in first-year primary care residencies to 50% of the places should be reached between 1975-1980. Annual monitoring of trends in distribution of first-year positions across the specialty spectrum should be carried out by the Association, and the disparities of trends versus needs should be called to the attention of the institutions.

4. First-year residency positions should be limited to 110%-120% of the number of graduates produced by U.S. medical schools. It is assumed that the number of graduates of American medical schools will be adjusted to the demands of population growth and other factors which will influence physician manpower needs.

5. Further investigation of this complex issue can be approached in a variety of ways:

a. By an examination and analysis of data currently available from AMA, DMI, and SOSSUS studies;

b. By an examination and analysis of physician tasks in terms of the lowest common denominator of education necessary to perform the task; and

c. By an examination and analysis of existing models of health systems, such as the Kaiser-Permanente, H.I.P., and plans in Great Britain, Sweden, and Denmark.

PHYSICIAN MANPOWER AND DISTRIBUTION

REPORT TO CCME

Physician Manpower and Distribution

In the late 1950's, concern was expressed that an insufficient number of physicians would be available in the future to meet the health care requirements of the public. The physician-population ratio in 1959 was 149/100,000.* The total number of physicians was 235,000. Osteopaths numbered 14,100. Seven thousand four hundred medical students were graduated.

A Consultant Group appointed by the Surgeon General of the U.S. Public Health Service stated in a report that "the maintenance of the present ratio of physicians to population (was) a minimum essential to protect the health of the people of the U.S. To achieve this, the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1975." At that time concern was also expressed about the increasing number of specialists, the decreasing number of general practitioners, and a decrease in the total number of physicians who served families as primary care physicians.

In 1967, a National Advisory Commission on Health Manpower recommended that "the production of physicians should be increased beyond presently planned levels by a substantial expansion in the capacity of existing medical schools and by continued development of new schools." The Commission, recognizing that the ultimate solution of the physician manpower problem resided in the institutions responsible for the education

* The ratio published originally in the Bane Report was 141/100,000. In 1963, a national conference on physician statistics revised the categories of physicians and population to be counted. Using the new agreement, the 1959, physician/population ratio became 149/100,000.

of physicians, recommended that "the formal education for all health professionals be conducted under the supervision of universities. This would include graduate training such as internships, residencies, and their equivalents."

The schools of medicine have responded to the challenge for additional physicians. (Table I) If the United States merely maintains the current output capability of U.S. medical schools, there will be 50% more physicians by 1985. If there are no significant changes in the output capacity of U.S. medical schools or in the influx of foreign trained physicians, the ratio of physicians to population may attain an appropriate balance and even exceed it. As a result we feel that physician supply and requirements will move toward a rough balance by 1985. There may be other factors such as the physicians' productivity, the methods of delivering health care, the demands for care and economic support of the health care system that will influence the attainment of this balance.

Although the geographic distribution of specialists is not resolved by increasing numbers of specialists it will be indirectly affected by alterations in specialty distribution.

There is general agreement by those who have studied the physician manpower problem and the health care delivery system that:

- 1) Physicians now practice predominantly as specialists. (Table II)
- 2) Most of the growth has occurred in surgical and technological specialties and in medical subspecialties.
- 3) The primary care specialties are ordinarily considered to be internal medicine, pediatrics, family practice, and general practice. While

there has been an increase in the total number of internists and pediatricians, there has been an overall decline in the total number of physicians engaged in the specialties which are generally considered to be the primary care specialties. (Table III)

- 4) The demands for health care services are increasing out of proportion to increments in the population.
- 5) The total number of physicians in this country provides a physician-population ratio that is higher than any other in the western world (Tables IV and V).
- 6) It is very likely that physicians' productivity will continue to increase although there will be some factors which influence this in a negative way.
- 7) Any analysis of projected health professional manpower needs must consider the increasing numbers of physician assistants and nurse practitioners.
- 8) Factors which determine specialty selection and geographic location are numerous but are generally related to professional prestige, the availability and location of specialty residencies, potential income, life style, and environmental and social conditions (Table VI).
- 9) Additional information concerning the distribution of effort of physicians in all specialties is needed for a thorough analysis of the needs and demands of the people for health care services, the distribution of physician manpower and the amount and type of primary care provided.

Certain generalizations can be drawn from information presently available.

- 1) A primary care physician is one who establishes a relationship with an individual or a family for which he provides continuing surveillance of their health needs, comprehensive care for the disorders which he is qualified to care for, and access to the health care delivery system for those disorders requiring the services of other specialists.
- 2) There is a need for individuals and families to have a continuing relationship with a primary care physician, a group of physicians, or an institution that provides primary care, if access to the delivery system is to be secure and acceptable to the people. (Tables VII and VIII)
- 3) Although many board certified specialists of all types provide varying degrees of primary care,* the bulk is rendered by general internists, general pediatricians, and family practitioners who represent about one-third of the certified specialists and one-third of the total number of physicians (Tables II and VII).
- 4) There is an unsatisfactory overall distribution of specialists that has created an excess of some and a deficit of those specifically educated to give primary care (Tables IX and X).
- 5) There are no existing means within a generally permissive system for changing in an arbitrary manner the specialty and geographic distribution of physicians.

* For the purposes of this document, primary care is considered to mean that type of longitudinal care characterizing the practice of the primary care physician.

- 6) A significant proportion of the number of physicians (20-25%) providing care to the public received their preliminary medical education in foreign countries (Tables XI and XII). A difference in educational background is revealed in the results of specialty board examinations.
- 7) There is a progressive increase in the use of hospital services (Table XIII).
- 8) There is a significant use of the resources of emergency services to provide care to ambulatory patients with non-catastrophic illness.
- 9) There has been a steady increase in the number of hospitals affiliated with academic medical centers and in the number of graduate educational programs offered in these institutions (Table XIV).
- 10) The total number of positions in graduate medical education has increased significantly from 32,840 in 1952-53 to 65,308 in 1972-73 (Tables XV and XVI).
- 11) More women are being accepted into schools of medicine and the majority of them seek careers in specialties providing primary care (Tables XVII and XVIII).
- 12) The vast majority of medical graduates in this country enter formal residency programs and become eligible for board certification (Table XIX).
- 13) There is a growing number of interdisciplinary physician groups (Table VIII).
- 14) If voluntary changes are to occur in order simultaneously to depress the rate of production of some specialists and to increase the number of primary care physicians, the schools of medicine, the institutions responsible for graduate education, the certifying specialty boards,

the accrediting agencies, national and regional professional organizations, states, and the federal government will all have to participate.

Recommendations:

- A. Schools of Medicine and their university and other affiliated hospitals should accept responsibility for the education of primary care physicians by:
1. Creating the appropriate faculty structure to recognize the primary care physician on the same basis that other specialists are recognized.
 2. Establishing appropriate and justifiable administrative units that will be identified with the education of physicians who are going to deliver primary care.
 3. Establishing appropriate undergraduate tracks and residency programs that will emphasize ambulatory care and will attract students into primary care specialties.
 4. Eliciting the participation of other departments in the support and activities of the faculty and staff responsible for education and service in the arena of primary care.
- B. The American Board of Family Practice and the American Academy of Family Physicians should continue to be supported in their efforts to develop the concept of family practice and to define the characteristics and contour of that specialty.
- C. The American Boards of Internal Medicine and Pediatrics should re-examine their requirements for admission to their certifying

- 7 -

examinations so that the educational program and a career in general medicine or general pediatrics will have the same or more professional prestige as the other specialty categories of internal medicine and pediatrics.

- D. The Liaison Committee on Graduate Medical Education and its sponsoring organizations should through the Essentials and the review of programs devise methods for emphasizing the desirability and need of strong and attractive educational experiences in general medicine and general pediatrics.
- E. The Coordinating Council on Medical Education should ascertain the number of diplomates for each medical specialty and their projections into the future, and should compare this with society's needs for various kinds of specialists and make recommendations to appropriate agencies.
- F. The Liaison Committee on Graduate Medical Education and residency review committees should be urged to maintain the standards utilized to evaluate the educational programs they are accrediting.
- G. Institutions responsible for graduate medical education should as a regional consortium identify the medical manpower requirements of the region and adjust their output of specialists accordingly.
- H. The Coordinating Council on Medical Education should acquaint the U.S. Congress, federal agencies, state legislatures, state departments of health, medical licensing boards, hospital trustees and administrators, and university boards of regents with information concerning physician manpower distribution and should urge support

from appropriate sectors for additional endeavors designed to increase the number of primary care physicians and their effective geographic distribution. (Tables XX and XXI).

- I. The organizations (CFMG, ECFMG, AMA, AAMC, ABMS, AHA, NBME, FSMB, Fed. Gov't.) having segments of the responsibility for the incorporation of FMG's into the educational and health care structure of this country should jointly resolve the problem of the numbers of FMG's entering the educational system and establish criteria for entrance that are the same or equivalent to those required of USMG's.
- J. Schools of Medicine should utilize all available techniques to identify those applicants who may be reasonably expected to select careers in primary medical care and should accept a significant proportion of them into the educational system.
- K. The Coordinating Council on Medical Education, working cooperatively with the federal and state governments, should address itself to the question of identifying manageable geographic regions and supporting, with a commitment of regional financial resources, the efforts, mechanisms and organizations which would have the responsibility of defining the area's health care needs, the number and type of health professionals required to meet the needs of the public, the number and types of educational programs required, and the appropriate distribution of physical and professional resources to meet health care needs.
- L. The Coordinating Council on Medical Education should continue to

assume, within the authority of its parental organizations, the responsibility for -

- a) Coordinating data and information pertinent to professional manpower and the costs of graduate medical education.
- b) cooperating with other agencies and the federal government to develop appropriate solutions to the manpower problem.
- c) developing guidelines for the use of medical centers which assume a regional responsibility.
- d) monitoring the effectiveness of the medical center's efforts to solve on a regional basis the problem of professional manpower and related educational programs.
- e) continuing to address itself to the integration of regional professional manpower needs into an equitable and efficient national manpower policy.
- f) recommending to appropriate professional bodies procedures for the process of accreditation that evaluate not only the quality of the educational programs, but also the quality and completeness of professional services provided by a medical center to a geographic region.
- g) initiating or conducting studies of the medical care reimbursement system to determine its effect upon the distribution of physicians by medical specialty and to suggest appropriate changes which might increase the supply and effective distribution of primary care physicians.

November 23, 1973

TABLE I

STUDENTS AND GRADUATES IN MEDICAL AND BASIC SCIENCE SCHOOLS

<u>YEAR</u>	<u># OF SCHOOLS</u>	<u>ENROLLMENT</u>	<u>GRADUATES</u>
1930-31	76	21,982	4,735
1940-41	77	21,379	5,275
1950-51	79	26,186	6,135
1960-61	86	30,288	6,994
1970-71	103	40,487	8,974
1972-73	112	47,546	10,391

TABLE II

DISTRIBUTION OF PHYSICIANS IN USA AND POSSESSIONS

<u>SPECIALTY</u>	<u>1965 NUMBER</u>	<u>%</u>	<u>1972 NUMBER</u>	<u>%</u>
GENERAL AND FAMILY PRACTICE	71,366	24.4	53,348	15.5
INTERNAL MEDICINE	38,690	13.2	47,994	13.5
SURGERY	27,693	9.5	30,989	8.7
PSYCHIATRY	17,888	6.1	22,570	6.3
OB-GYN	16,833	5.8	20,202	5.7
PEDIATRICS	15,665	5.4	19,610	5.5
RADIOLOGY	9,553	3.3	14,917	4.2
ANESTHESIOLOGY	8,644	3.0	11,853	3.3
OPHTHALMOLOGY	8,397	2.9	10,443	2.9
ORTHOPEDICS	7,549	2.6	10,356	2.9
UROLOGY	5,045	1.7	6,291	1.8
OTOLARYNGOLOGY	5,325	1.8	5,662	1.6
OTHERS	<u>59,440</u>	<u>20.4</u>	<u>89,275</u>	<u>25</u>
TOTAL	292,088	100	356,534	100
			% increment	+22.1

TABLE III

CHANGE IN SPECIALTY DISTRIBUTION

<u>PRIMARY CARE SPECIALTIES</u>	<u>1965</u>	<u>1972</u>	<u>% CHANGE</u>
INTERNAL MEDICINE	38,690	47,994	
PEDIATRICS	15,665	19,610	
GENERAL PRACTICE	<u>71,336</u>	<u>55,348</u>	
	125,691	122,952	- 2.3

MEDICAL SUBSPECIALTIES

ALLERGY	910	1,638	
CARDIOVASCULAR	1,901	5,883	
DERMATOLOGY	3,538	4,227	
GASTROENTEROLOGY	633	1,839	
PED. ALLERGY	82	383	
PED. CARDIOLOGY	146	514	
PULMONARY DISEASE	<u>1,226</u>	<u>2,065</u>	
	8,436	16,549	+ 96.2

% CHANGE IN RATIO OF MEDICAL AND
PEDIATRIC SUBSPECIALISTS TO BOARD
CERTIFIED INTERNISTS AND PEDIA-
TRICIANS

15.5 24.5

<u>SURGICAL SPECIALTIES</u>	76,147	91,058	+ 19.9
<u>OTHER SPECIALTIES</u>	67,271	90,344	+ 34.3

TABLE IVPHYSICIAN-POPULATION RATIOS

<u>YEAR</u>	<u>PHYSICIANS PER 100,000 POPULATION M.D. AND D.O.</u>
1963	149
1968	160
1972	173

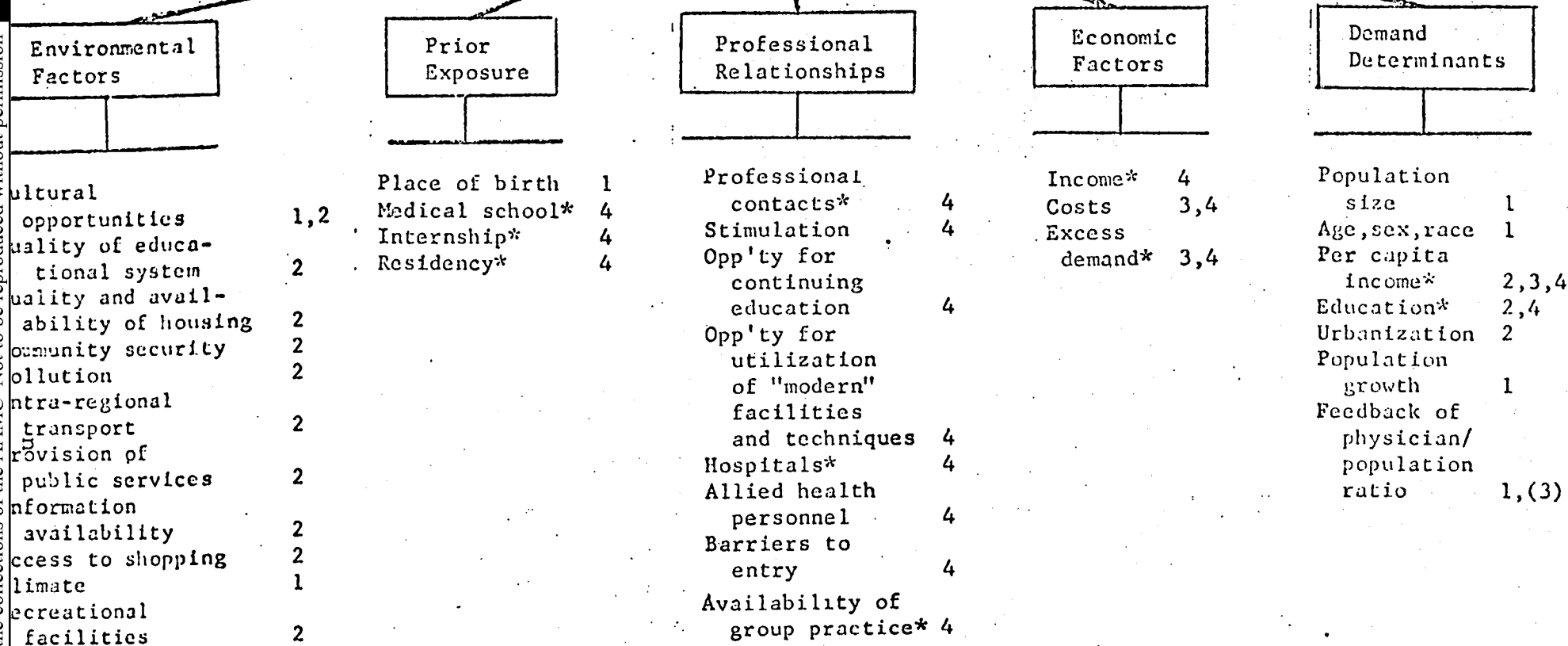
TABLE VAVERAGE SIZE OF MEDICAL SCHOOLS, 1930-1973

<u>YEAR</u>	<u>NUMBER OF SCHOOLS</u>	<u>AVERAGE 1st YEAR ENROLLMENT</u>	<u>AVERAGE TOTAL ENROLLMENT</u>	<u>AVERAGE GRADUATES</u>
1930	76	84	289	62
1940	77	75	277	68
1950	79	90	331	77
1960	86	96	352	87
1970	103	110	393	96
1971	108	114	404	101
1972	113	118	416	102
1973	114	121	447	109

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POLICY POTENTIAL OF FACTORS IN LOCATION DECISIONS

LOCATION DECISION



- Classification Code:
- 1. Not subject to policy manipulation
 - 2. Inefficient policy variable
 - 3. Infeasible variable for policy
 - 4. Potential policy variable

Source

McFarland, J.: Toward an Explanation of the Geographical Location of Physicians in The United States. In: Contributions to a Comprehensive Health Manpower Strategy, Chicago: AMA Center for Health Services, Research and Development. Rev. July, 1973 - pp 29-67

* Indicates variable, in the subset of policy alternatives, which seems to be very important

TABLE VII
PHYSICIANS CERTIFIED BY SPECIALTY BOARDS
12-31-72

<u>AMERICAN BOARDS</u>	<u>NUMBER</u>	<u>%</u>
<u>PRIMARY CARE M.D.'S</u>		
FAMILY PRACTICE	4,520	
INTERNAL MEDICINE	22,737	
PEDIATRICS	<u>13,101</u>	
SUBTOTAL	40,358	30
<u>ALL OTHERS</u>	<u>95,110</u>	<u>70</u>
TOTAL	135,468	100

TABLE VIII

TOTAL GROUPS BY TYPE OF GROUP
1959, 1965, 1969

Survey Year	Total	Type of Group			
		Single Specialty	General Practice	Multispecialty	General Practice and Multispecialty
1959	1,543	392	--*	--*	1,154
1965	4,289	2,161	651	1,477	2,129
1969 (actual)	6,371	3,169	784	2,418	3,202
1969 (adjusted)	6,162	3,252	758	2,152	2,910
<u>Annual Average Percentage Change</u>					
1959-65	18.5	32.9	--*	--*	10.7
1965-69 (actual)	10.4	10.0	4.8	13.1	10.8
1965-69 (adjusted)	9.5	10.8	3.9	9.9	8.1
<u>Percentage Distribution</u>					
1959	100.0	25.4	--*	--*	74.6
1965	100.0	50.4	15.2	34.4	49.6
1969 (actual)	100.0	49.7	12.3	38.0	50.3
1969 (adjusted)	100.0	52.8	12.3	34.9	47.2

Total percentages may not add to 100.0% due to rounding.

*The 1959 survey combined General Practice and Multispecialty groups.

Source: Todd, C., McNamara, M.E.: Medical Groups in the U.S., 1969
Chicago: Center for Health Services Research and Development, American
Medical Association, 1971. p. 74.

Notes: The 1959 survey was conducted by the Public Health Service.
The 1965 and 1969 surveys were conducted by the American Medical
Association.

Since no differentiation was made between full-time and part-time
employment in the 1969 survey, these data were adjusted to meet
the 1965 survey criterion of three or more full-time physicians.

TABLE IX

CHART 3: PERCENT OF NON-FEDERAL PHYSICIANS BY SPECIALTY
DEC. 31, 1972

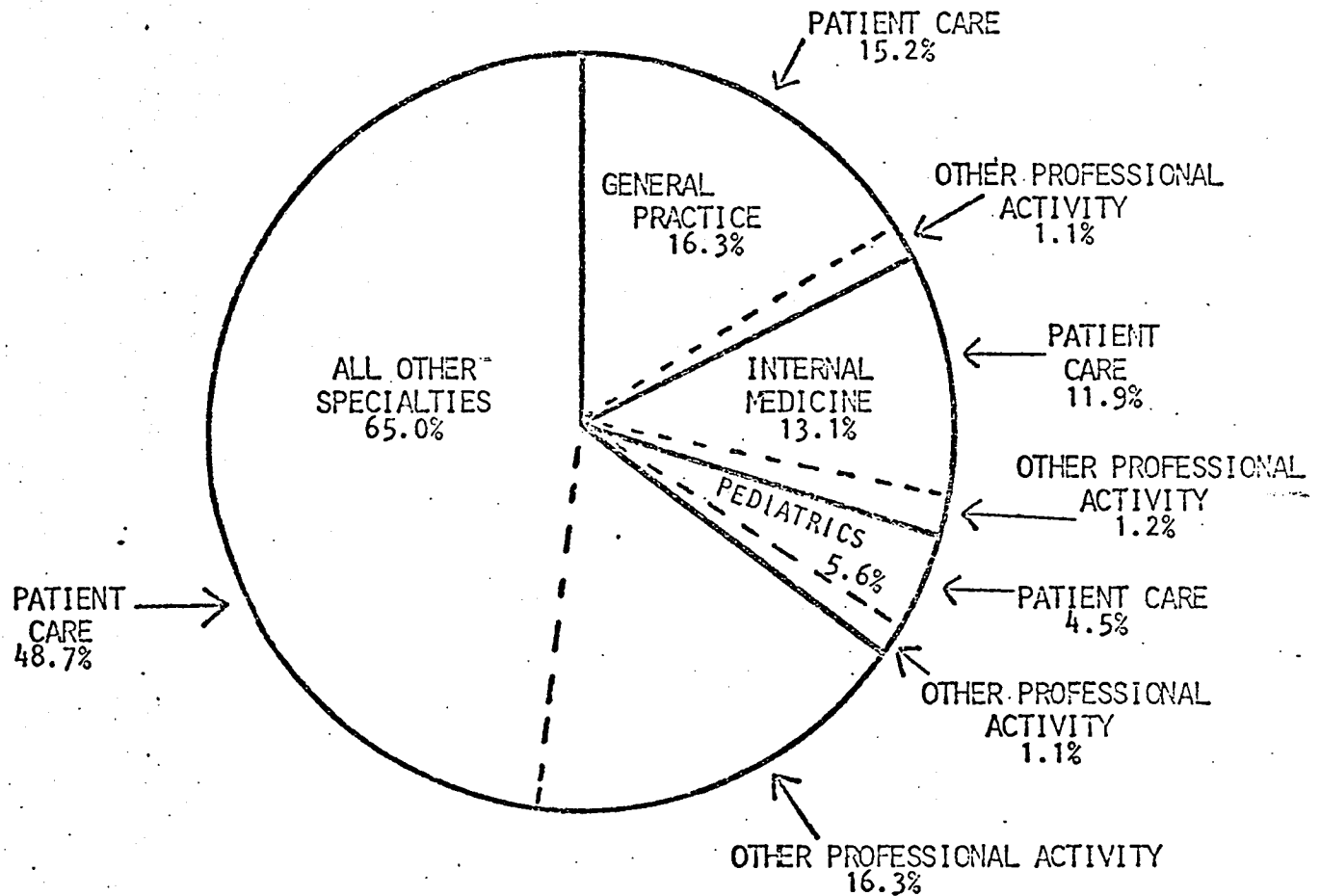


TABLE X

A COMPARISON OF PROJECTIONS FROM 2 SOURCES FOR
MANPOWER IN THE SURGICAL SPECIALTIES

	Division of Medical Intelligence*	SOSSUS*
General Surgery	$\frac{55,530}{24,480} = 2.26 \text{ (126\%)}$	$\frac{16,131}{13,175} = 1.2 \text{ (20\%)}$
Neurosurgery	$\frac{3,680}{2,170} = 1.69 \text{ (69\%)}$	$\frac{2,119}{1,353} = 1.57 \text{ (57\%)}$
Ob-Gyn	$\frac{21,520}{15,810} = 1.36 \text{ (36\%)}$	$\frac{16,647}{9,786} = 1.7 \text{ (70\%)}$
Otolaryngology	$\frac{7,560}{4,770} = 1.58 \text{ (58\%)}$	$\frac{4,874}{3,674} = 1.33 \text{ (33\%)}$
Orthopedics	$\frac{16,630}{8,740} = 1.9 \text{ (90\%)}$	$\frac{11,261}{6,011} = 1.87 \text{ (87\%)}$
Plastic Surgery	$\frac{3,050}{1,390} = 2.19 \text{ (119\%)}$	$\frac{1,720}{828} = 2.08 \text{ (108\%)}$
Thoracic Surgery	$\frac{3,340}{1,440} = 2.32 \text{ (132\%)}$	$\frac{3,819}{2,178} = 1.75 \text{ (75\%)}$
Urology	$\frac{8,500}{5,060} = 1.68 \text{ (68\%)}$	$\frac{4,390}{3,289} = 1.33 \text{ (33\%)}$

$\frac{n \text{ in } 1990}{n \text{ in } 1970} = \text{ratio (\% increase)}$

*Division of Medical Intelligence data from Table 36 (P. 135), "The Supply of Health Manpower".

*SOSSUS data from Table 10 (p. 468), F. Moore, et al, ANNALS OF SURGERY, October 1972.

TABLE 11. FOREIGN MEDICAL GRADUATES IN TRAINING PROGRAMS

ACADEMIC YEAR	INTERNS	RESIDENTS	OTHER TRAINEES	TOTAL ON DUTY
1963-64	2,566	7,052	1,791	11,409
1964-65	2,821	8,153	1,925	12,899
1965-66	2,361	9,113	2,355	13,829
1966-67	2,793	9,505	2,566	14,864
1967-68	2,913	10,627	3,077	16,617
1968-69	3,270	11,201	4,046	18,517
1969-70	2,939	12,060	3,220	18,219
1970-71	3,339	12,943	3,331	19,613
1971-72	3,946	13,520	4,106	21,572
1972-73	3,924	14,440	3,595	21,959

TABLE XIIFAILURE RATES OF
AMERICAN MEDICAL SPECIALTY BOARDS

	<u>USMG</u>	<u>FMG</u>
A	10	50
B	13	53
C	30	73
D	6	20
E	11	38
F	14	47
G	5	18
H	17	41
I	14	55
J	10	58
K	<u>14</u>	<u>43</u>
AVERAGE	26	64

TABLE XIII

TABLE 1 - UTILIZATION DATA FOR NON-FEDERAL GENERAL
SHORT-TERM HOSPITALS IN THE U.S., 1955 AND 1970

	1955	1970	PER CENT INCREASE
HOSPITALS	5,237	5,859	11.9
INPATIENT BEDS	567,612	848,232	49.4
INPATIENT ADMISSIONS	19,100,262	29,251,655	53.1
INPATIENT DAYS	148,522,150	241,458,815	62.6
TOTAL OUTPATIENT VISITS	53,593,912	124,287,646	131.9
REFERRED	12,327,113	37,297,792	202.6
CLINIC	28,731,275	44,297,093	54.2
EMERGENCY	10,465,788	42,692,761	307.9
EMERGENCY DEPARTMENT VISITS			
AS PER CENT OF ALL OPD VISITS	19	34	78.9
PER ADMISSION	0.5	1.5	200.0
PER BED	18	50	177.8
PER INPATIENT DAY	0.07	0.18	157.1
PER HOSPITAL	1998	7287	264.7
PER 1,000 POPULATION	64	212	231.2

SOURCE: GUIDE ISSUE OF HOSPITALS, J.A.H.A., PART 2, AUG. 1, 1956 AND AUG. 1, 1971.

TABLE XIV. HOSPITAL AFFILIATION WITH MEDICAL SCHOOLS

<u>EDITION OF DIRECTORY</u>	<u>TOTAL AFFILIATED</u>	<u>UNAFFILIATED HOSPITALS</u>	<u>TOTAL HOSPITALS WITH PROGRAMS</u>
1964-65	389	1,034	1,423
1965-66	369	1,017	1,386
1966-67	517	850	1,367
1967-68	607	950	1,512
1968-69	631	781	1,412
1969-70	699	750	1,449
1970-71	919	766	1,685
1971-72	996	696	1,692
1972-73	888	573	1,461
1973-74	1,165	546	1,711

TABLE XV
INTERNSHIP AND RESIDENCY PROGRAMS

<u>YEAR</u>	<u>INTERNSHIPS</u>		<u>RESIDENCIES</u>		<u>TOTAL</u>	<u>TOTAL</u>
	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>
1952-53	10,548	7,645	22,292	16,867	32,840	24,512
1962-63	12,024	8,805	36,502	29,239	48,526	38,044
1972-73	13,650	11,163	51,658	45,081	65,308	56,244

Table XVI

Number of First-Year Residency Positions Offered, Filled,
Percent Filled, in Affiliated and Nonaffiliated
Hospitals, 1963 - 1972

Year (As of Sept. 1)	Affiliated			Nonaffiliated			Total		
	Offered	Filled	% Filled	Offered	Filled	% Filled	Offered	Filled	% Filled
1966	9,145	7,772	62	6,348	5,083	80	15,493	12,855	83
1967	10,856	9,218	85	4,518	3,363	74	15,374	12,581	82
1968	11,558	9,963	86	3,807	2,758	72	15,365	12,721	83
1969	13,418	11,536	86	3,022	2,189	72	16,440	13,725	84
1970	14,216	12,542	88	2,690	2,014	75	16,906	14,556	86
1971	15,466	13,523	87	2,227	1,658	74	17,693	15,181	86
1972	16,770	15,144	90	2,027	1,629	80	18,797	16,773	89

Source: Annual *Directory of Approved Internships and Residencies*, AMA, Chicago.

TABLE XVII
N.I.R.M.P. 1973
WOMEN MATCHED

	<u>#</u>	<u>%</u>
ROTATING O	52	
ROTATING, MEDICINE	20	
ROTATING, PEDIATRICS	18	
MEDICINE	199	
PEDIATRICS	84	
FAMILY PRACTICE	29	
PEDIATRIC RESIDENCY	<u>122</u>	
	524	62.4
OTHER	<u>315</u>	37.6
TOTAL	839	100

TABLE 18. WOMEN IN U.S. MEDICAL SCHOOLS
(SELECTED YEARS FROM 1939-1973)

ACADEMIC YEAR	WOMEN APPLICANTS*		WOMEN IN ENTERING CLASS		TOTAL WOMEN ENROLLED		WOMEN GRADUATES	
	NO.	%	NO.	%	NO.	%	NO.	%
1939-40	632	5.4	296**	5.0	1,145	5.4	253	5.0
1949-50	1,390	5.7	387	5.5	1,806	7.2	595	10.7
1959-60	1,026	6.9	494	6.0	1,710	5.7	405	5.7
1964-65	1,731	9.0	786	8.9	2,503	7.7	503	6.8
1969-70	2,289	9.4	952	9.2	3,390	9.0	700	8.4
1970-71	2,734	10.9	1,256	11.1	3,894	9.6	827	9.2
1971-72	3,737	12.8	1,693	13.7	4,755	10.9	860	9.0
1972-73	6,000+	16.6+	2,315	16.9	6,099	12.8	924	8.9

* AAMC ANNUAL STUDIES OF APPLICANTS

** E.F. POTTHOFF. "THE FUTURE SUPPLY OF MEDICAL STUDENTS IN THE U.S."
JOURNAL OF MEDICAL EDUCATION, VOL. 35 (1960) TABLE 1 p.224.

+ ESTIMATES

TABLE XIX

TABLE 4

1960 Cohort

Specialty Certification and Record of Residency Training

Summation Analysis Excluding Family Practice and Unspecified Groups *

Specialty	Total Sample	History of Residency Training		Entered Cert. Process		Board Certified As of Sept. 1972	
		N	%	N	%	N	%
AL: All Primary Specialties (Ex- cluding Family Practice and Unspecified)	557	551	99%	481	86%	405	73%

*Family Practice (or general practice) was excluded because it did not represent an option for graduates desiring board certification until 1969. The unspecified group was excluded because follow-up data were not available.

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TABLE X

CHART 7: PERCENTAGE OF PHYSICIANS IN PATIENT CARE
AND RESIDENT POPULATION DECEMBER 31, 1973

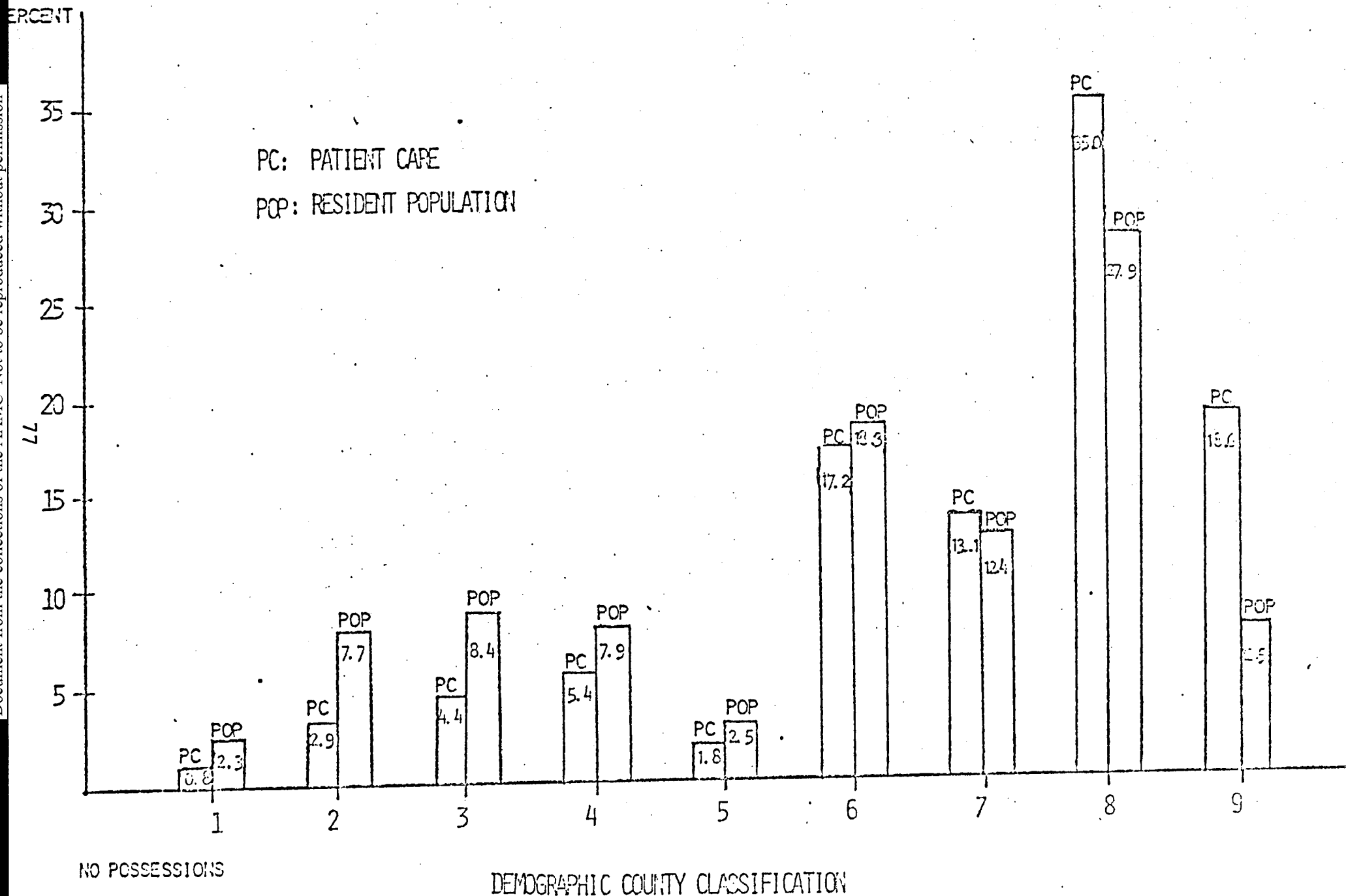
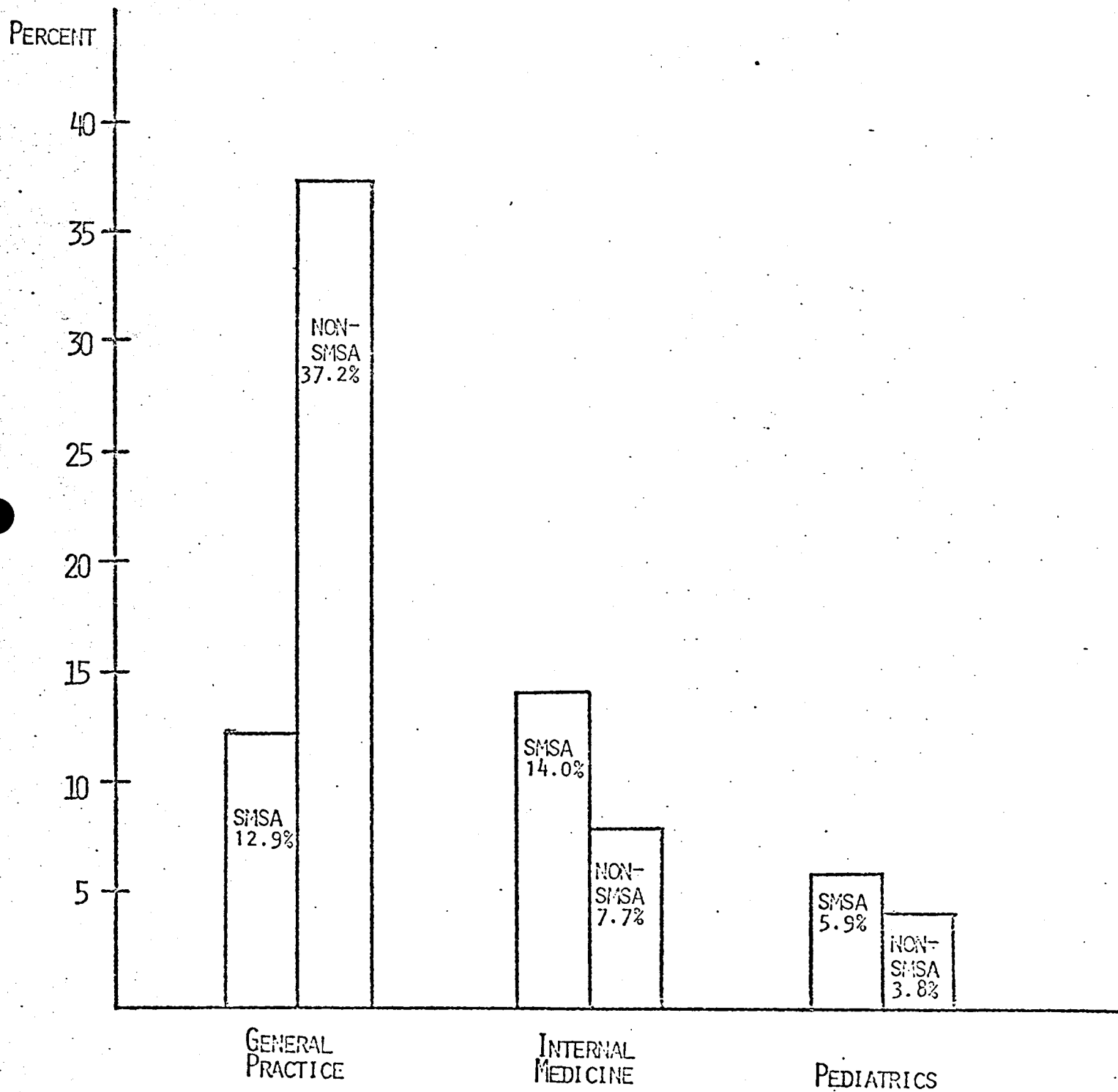


TABLE XXI

CHART 4: PERCENTAGE OF GENERAL PRACTICE, INTERNAL MEDICINE,
AND PEDIATRICS IN METROPOLITAN AND NON-METROPOLITAN
AREAS, 12-31-72



REPORT ON THE NLM REGIONAL MEDICAL LIBRARY PROGRAM

You will recall that at the June meeting it was brought to your attention that the NLM wished to admonish the Deans to support the Regional Medical Library Network to a greater extent and to seek a fuller understanding of the commitment medical school libraries had to the Regional Library Network. It was our judgment at that time that the communication that they wished to send to the Deans was not sufficiently specific to make an impact. We met the five key administrators from NLM during the summer. In the course of the meeting we formulated a statement of the issues with which they were concerned. You will recall that we summarized this for you in an item included in the last Administrative Board agenda. We promised them a discussion of this matter with the Administrative Board at its next meeting and ask that the NLM prepare for us, in advance, a position on each of the issues with an assessment of what needed to be done to effect an increase in the effectiveness of the system.

The paper prepared by NLM staff was submitted in response. The letter to Hack Schoolman attempts to sharpen the issues so that the discussion with the Administrative Board will lead us more clearly and precisely to the heart of the problem and elicit what the NLM has in mind for the programs to deal with these matters effectively.

REGIONAL MEDICAL LIBRARY NETWORK DEVELOPMENT

The Director and staff of the NLM and officials of the AAMC believe that health information service is an extremely important issue in health education institutions and that the continued support of AAMC members, especially the deans and other academic administrative officials, will assist in further refinements of an information network created to meet their needs. Academic health institutions are undergoing changes of greatly expanded obligations related to the decentralization of health professional training. These activities are impacting on information services without concomitant changes in the efficiency of delivering this important resource to widely dispersed users. Until recently, there was little need for concern for efficiency in the library operation of health educational institutions. Information materials were relatively cheap to acquire, process and store, and so long as there was a concentration of users, they were easy to disseminate. In short, information services were effective and the needs were being met. Now, however, the combination of expanding institutional obligations and the questionable cost efficiency of many current practices in providing information services force a reconsideration of attitudes about the library as the traditional font of all knowledge and as a passive storehouse for this knowledge. An examination of the issues argues for the creation of a cooperative national network of information services.

The development of the Lister Hill Biomedical Communications Network has been a subject of interest to the AAMC. The structure of this network is only now beginning to evolve, but the substructure of one of its components, the Regional Medical Library Network, has already demonstrated the potential efficiency of an information network concept and has provided us with an effective working model on which to build.

The Regional Medical Library Network has received over \$11 million in Federal grants and contracts in the past eight years for direct development. Millions more have gone into indirect support of this concept through other grant programs and NLM's operational budget. The network was created to assist health researchers, educators, practitioners, and students, at all levels and in all health disciplines, with their information needs. It is a mechanism through which the Nation's total health information resources can be available in a systematic, organized, and expeditious fashion to all health institutions.

There are eleven Regional Medical Libraries, and most of the major medical school libraries participate in this information network. Briefly described, the model for the network is hierarchical, with each higher-level facility acting as the primary source of information material to the echelon below. The foundation of the network is the "basic unit" level, predominantly the libraries of the Nation's hospitals, which are the primary entry points into the network for the majority of health workers. The next level in the hierarchical chain consists of "resource libraries"--those institutions with more comprehensive informational resources and a contractual commitment to share these resources with institutions at the basic unit level. Usually these are the libraries at the Nation's medical schools. The backup facility for these participating resource libraries within each region is the next level in the system, the Regional Medical Library. As each region's penultimate health information source, the Regional Medical Library has the additional responsibility of planning a coordinated system of library services within the region. The fourth level, the backup resource for the Regional Medical Libraries, is the National Library of Medicine which contains the world's largest collection of biomedical literature.

In the development phases, the primary effort in this network has been the rapid and reliable provision of printed documents--photocopies of journal articles and loans of original material. Since 1970, when the last of the Regional Libraries was established, approximately 2 million interlibrary loans have been subsidized by the contracts to the Regional Medical Libraries and countless others have been made possible primarily through the framework of the regional services model. The success of the RML Network has been impressive but limited. The cooperation thus far has been almost exclusively the province of librarians. It appears, in fact, a contradiction in allegiance that librarians are readily extending commitments for service outside of their parent institutions while simultaneously their budget-conscious institutions are struggling to economize on information services and yet retain the library's status quo. The real contradiction, however, would be in a failure to recognize that along with an expansion of the sphere of influence in health education and care, and as an essential ingredient to the success of these extension programs, goes an institutional responsibility to plan and budget for information services to faculty, students, and clinicians in these dispersed and often remote educational centers.

Staff members of NLM and the AAMC have participated in discussions which have distinguished a number of interrelated topics believed to be important issues for future dialogues with the deans and other concerned AAMC members. It is important to realize in the consideration of these topics that the National Library of Medicine, sponsor of the Regional Medical Library Program, has appropriately limited influence in the solution to problems which inhibit the growth and effectiveness of the RML Network. The relatively small amount of Federal funds available for implementing this RML program was intended only to establish a framework to facilitate cooperation. It is therefore both necessary and timely to elicit the

assistance of the Association in planning and in establishing controls which will integrate this existing network.

The conservation, effective utilization, and sharing of resources are fundamental features in any cooperative network and this topic is introduced as a foundation for future discussions.

As alluded to earlier, the historical development of academic libraries has had its roots in a philosophy of building, maintaining, and storing (and guarding) large archival collections. In the pursuit of effective educational techniques and scholarly research, medical schools strived to have the records of all health knowledge immediately at hand. This was a reasonable course and not a particularly difficult task. There was only a relatively small and finite universe of health information, and institutional budgets were not strained to achieve and maintain a status of excellence in information resources. It was worth the effort too, as the presence of large collections provided independence and represented prestige; and it was an important measure of an institution's greatness. These historical notions have persisted and have been abetted by such as the report of the President's Commission on Heart Disease, Cancer, and Stroke and even the Medical Library Assistance Act of 1965. These and other reports, recommendations, and legislative Acts decried the lack of health information resources, especially in our medical school libraries, and advocated quantitative standards, such as the "90% library" and the "100,000-volumes and 1,500-journal-title collections." In retrospect these seem to have been reasonable criteria. Had the field of health continued on a path, or any nuance of that path, charted ten years ago; had the cliché of "information explosion" remained only a threat; and had unforeseen economic factors and Federal priorities taken a different course, we might be reexamining these same criteria today, but

with far less concern or pressure.

"Any consideration of library networks, however they are defined and developed, must take cognizance of the seeming failure of our present programs for sharing resources. With interlibrary lending, with the known location of a higher portion of requested materials, and with copying devices, why have the users insisted on local ownership? If networks are teletype and telefacsimile in lieu of interlibrary loan, then nothing new has been added, with the exception of speed, and the user is still likely to demand copies in his own library. If networks are central computer storage of the location of materials in lieu of union lists, then nothing new has been added, with the exception of updating, and the user is still likely to demand local self-sufficiency. If networking is not a fairy tale, then it must be more than new devices for the time-honored, traditional practices." (Richard E. Chapin)

The RML Network has its new devices ^{1/}; additional devices will undoubtedly follow and other sound arguments for resource-sharing and against self-sufficiency will become even more pronounced such as:

- 1) The construction cost of new library facilities.
- 2) The cost of maintaining these storehouses.
- 3) The cost of informational materials.
- 4) The utilitarian "half-life" of biomedical information.
- 5) The proliferation of medical information.
- 6) Interdisciplinary education requiring information materials of no previous relevance to medicine.
- 7) Increases in consumer demands because of the continuing education programs created in response to peer review, medical audit, relicensure, and recertification, etc.
- 8) New decentralized educational designs and health delivery systems.

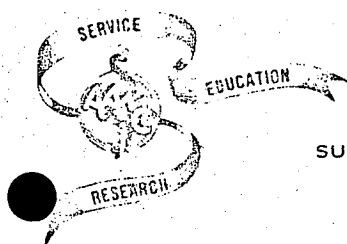
^{1/} Such services as MEDLINE, CATLINE, AVLINE, SDILINE, SERLINE, COMPILE, TOXLINE are in various stages of development. MEDLINE (MEDLARS ON-LINE), the most familiar and most developed of these files, contains approximately 500,000 citations to almost 1200 of the 2500 journal titles in Index Medicus for the past 3 calendar years. The MEDLINE data base may be accessed directly or via time sharing networks. Over 200 health institutions have access by terminal to the MEDLINE data base and an average of 16,000 searches are performed each month.

The Regional Medical Library document delivery network is a fact, but however sophisticated the technical and mechanical aspects of this network become, and however motivating the pressures against self-sufficiency, the RML Information Network and the Biomedical Communications Network will remain inadequate until individuals who are responsible for the administration of health efforts on all levels make decisions and commitments which will not only facilitate resource-sharing, but require it. It is hoped that future discussions can explore in depth this basic question of resource-sharing.

Other critical issues which need to be considered, relate to this central theme of conservation and sharing of resources. They represent barriers to the ultimate utilization of resources in a cooperative network; and they are, in varying degrees, issues which can be influenced by the deans and other AAMC officials.

- 1) As stated previously, the cooperation thus far in network development has been the province of librarians, especially the librarians at the larger resource (medical school) libraries. In dealing with cooperative development at the community hospital level of the network, these librarians tend to relate only to their counterparts. They are not effectively reaching those in the hospital who have the responsibility for educational program design and for planning and budgeting for information services to supplement these designs. Conferences with hospital administrators and directors of medical education for planning the various affiliation agreements should assign an important role to the information services needed by the medical students in the hospital setting.

- 2) A similar problem exists at other levels where program managers responsible for implementing new educational or health care efforts fail to integrate information resources and services in their program planning. Such new efforts include the Area Health Education Centers, continuing education programs in medical schools and associated hospitals, new health educational program in community medicine, etc. These activities are placing demands on library service without commensurate provisions which recognize the extent of these demands.
- 3) In the library community, medical libraries have always enjoyed the altruistic reputation of providing services to a population beyond the constituency of their parent institutions. Institution officials have recognized and in most cases encouraged the practice. However, perhaps because of this tradition, there is an illusion that the document delivery services of the RML program and the RML network itself are simply improved designs for continuation of these same services and that this is our objective. Thus, institutional commitments to participate in the RML network have been made almost cavalierly without a clear recognition of the scope of obligations which are necessary to take the RML program beyond an interlibrary loan service and into the arena of a cooperative national Biomedical Communications Network.
- 4) It follows from the above that participating institutions are also not taking full advantage of the cost benefits which already exist in the RML network, and given a continuation of the RML program in its present mode institutions are unlikely to enjoy future cost savings which are potential in the system.



ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

December 5, 1973

Harold G. Schoolman, M.D.
Special Assistant to the Director
Medical Program Development and Evaluation
National Library of Medicine
National Institute of Health
Building 38, M133
Bethesda, Maryland 20014

Dear Hack:

Thank you for the paper on the Regional Medical Library Network Development submitted for the Council of Deans Administrative Board agenda. This will be forwarded to the Board promptly.

I have asked that you be allocated up to an hour for your presentation and discussion with the Board, starting at 1:00 p.m. If you do not need this amount of time, we will be grateful as the agenda is full. However, I did want to give the matter sufficient priority and time.

It occurred to me that it might be fruitful for you, in your remarks, to segregate the series of issues you deal with in your paper much the way we formulated the problems and approaches to their solution at our meeting in September. I've forwarded to the Board the sheet that we drew up, and I think that it is a useful device to focus on a concise summary of the issues in our meetings. I have enclosed that paper for your use.

A number of additional questions came to mind as I reviewed your document. I think the discussions will have more impact if you would address them briefly at our meeting.

- I. With regard to resource sharing, specifically what functions do the Medical School Resource Libraries and the Regional Medical Libraries perform in the network at the present time? Does the National Library of Medicine have a coordinated national plan which spells out additional or different functions? What specific commitments do RML's have to make before they receive contracts to perform RML services? What proposals does NLM have with regard to resource sharing among the 114 medical libraries our constituents own and control?

The following questions relate to the issues 1, 2, 3 and 4 you discuss on pages 6 and 7.

Harold G. Schoolman, M.D.

Page 2

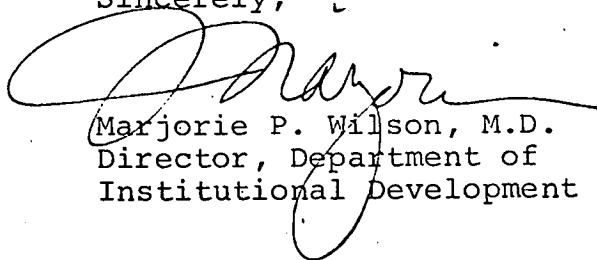
December 5, 1973

- II. What evidence is there that information service needs of medical students in affiliated hospitals are not being met? What can Deans do to ensure these needs are met?
- III. How have demands for library and/or information services changed and increased in the past five years?
 - A. New kinds of demands? For what new services?
 - B. Order of magnitude of the increase in demand caused by AHEC's, new programs in community medicine and other programs which you list?
- IV. What is the scope of the obligations necessary to transform the RML interlibrary loan service into a Cooperative Biomedical Communication Network as you suggested?
- V. Specifically what are the potential cost benefits to the medical schools in taking full advantage in RML network?

We are looking forward to meeting with you on December 13, 1973. The meeting will be held in the AAMC Conference Room. Joe Keyes, Director of the Division of Institutional Studies is responsible for the agenda as well as the arrangements for the meeting.

Please let us know if we can be of any assistance.

Sincerely,



Marjorie P. Wilson, M.D.
Director, Department of
Institutional Development

MPW:st

Encl.

The Regional Medical Libraries Program
Problems Identified - 9/5/73

1. The need for conservation of information resources of the medical school (academic medical center).

Nature of Problem: Educational

2. The failure of program managers to integrate information resources in program planning (AHEC, PSRO, Continuing Education Program, RMP, HMO's)

Nature of Problem: Educational/Clout/Administrative Procedure

3. The failure of the ultimate user to interact personally (directly) and thus most effectively with the network system.

Nature of Problem: Educational - need to remove impediments to access

4. The inability of librarians by themselves to reach and to serve effectively the user at the community hospital level. (the DME's etc.) Librarians talk to librarians only.

Nature of Problem: Need procedures to involve other types of individuals to collaborate - Need an integrated information system

5. The concern that institutions do not fully appreciate or are not fully cognizant of obligations they have assumed for service beyond their immediate constituency.

Nature of Problem: Educational

6. The concern that institutions are not aware of the benefits they can derive from the substantial investments already made in the network. (Cost Benefits)

Nature of Problem: Educational

FMG TASK FORCE RECOMMENDATIONS

The AAMC Task Force on the Foreign Medical Graduate has met once on November 30, 1973, and has developed the attached interim report on its deliberations. The Task Force will meet again on December 27 with the object of developing appropriate input to a meeting of the Coordinating Council in January 74. It expects to issue a final report in time for consideration by the Executive Council in March 1974. The Task Force would appreciate your comments on the directions its thinking has taken.

FMG TASK FORCE RECOMMENDATIONS

This is an interim report on the deliberations by the FMG Task Force regarding the influx of FMGs into the United States and the responsibilities of the AAMC constituency for a physician manpower pool of varying academic quality. There are two principal foci of concern:

- (a) The effect of the influx of large numbers of FMGs on the quality of medical education and the quality of medical care,
- (b) The specific problems of U.S. foreign medical graduates.

The FMG Task Force has developed the following recommendations regarding educational quality:

1.0 The flow of FMGs into the United States should not exceed the number for which U.S. resources can provide high quality graduate education which is appropriately organized to assure that FMGs achieve a level of knowledge and clinical competence equivalent to the (acceptable) U.S. medical graduate.

To accomplish the objectives implicit in this statement, actions are urged in terms of both program accreditation and FMG admission.

1.1 Accreditation-- Development of guidelines for criteria regarding resources and organization of U.S. graduate medical education programs to ensure quality education of FMGs. Graduate medical education programs must be required to meet these criteria if they are to accept FMGs for training.

1.2 Admission-- Development of a universal qualifying examination (e.g. such as the Qualifying A examination proposed in the GAP Report) to select U.S. and foreign medical graduates for admission into U.S. graduate medical education programs according to a uniform standard.

1.3 Interim Measure-- Adoption by the ECFMG of more stringent criteria to certify the eligibility of FMGs for U.S. graduate medical education. This could be accomplished through:

- Selection of questions for the ECFMG examination which compare more nearly in their degree of difficulty with those used for the National Board Examination, Parts I and II.

- Re-evaluation of the passing score on the ECFMG examination.

- Limitation on the number of times the ECFMG examination can be taken.

2.0 Should it be necessary to accept substantial numbers of FMGs into the U.S. medical education system beyond those who can be accommodated in terms of the above criteria, additional support must be provided for such programs to meet expanded instructional obligations.

December 4, 1973

11-20-73

W.H. Waddell

A SYNTHESIS

THE FOREIGN MEDICAL GRADUATE AND PHYSICIAN MANPOWER IN THE UNITED STATES,
Report No. 74-47---BHRD/DMI/OLIMA (August 1973)

CFMG REPORT DRAFT by Dr. William Sodeman (September 1973)

DIME/AAMC REACTION TO CFMG REPORT DRAFT (by Dr. Emanuel Suter in October 19 Letter)

=====

THE PROBLEM

The United States' health goal is "access to quality medical care for all Americans at a reasonable cost" (I-1)*. Our national health strategy for achieving this goal calls for us to build on existing elements in the health care structure, provide equal health care access to all, balance supply and demand with manpower and facilities, and organize health care more efficiently for future needs (I-1).

As efforts have been made to achieve this U.S. objective, a phenomenon has occurred to skew planning efforts. Foreign medical graduates (FMGs) have come to the United States for advanced medical training and have begun to remain in ever increasing numbers to practice medicine in this country.

Before any decision regarding health and medical planning is made, it is necessary to consider whether the U.S. health care system should continue to utilize FMGs in significant numbers. A reduction of FMGs would necessitate new policies and actions to redistribute physician manpower and generate new patterns of health care. These new policies and actions would have to consider both political and economic factors.

Political Factors-- Heavy reliance on FMGs involves charges on one hand of "brain drain" from other countries, while U.S. cries are heard because only 14,044 first year places in U.S. medical schools are available for more than 40,000 applicants from the U.S. in 1973 (AAMC 1973 fall enrolment questionnaire).

Economic Factors-- FMGs provide a major source of physician manpower in hospitals as housestaff. They also form a major pool of health manpower in public institutions where health demands are aided by special licensure provisions. In addition, FMGs are filling an increasing proportion of positions in domestic medical schools (I-7).

* The primary source for this summary is THE FOREIGN MEDICAL GRADUATE AND PHYSICIAN MANPOWER IN THE UNITED STATES, Report No. 74-47--BHRD/DMI/OIHMS (Aug. 1973). The chapter and page number references are provided in parentheses throughout the above text.

THE FOREIGN MEDICAL GRADUATE

There are two major categories of foreign medical graduates, necessitating two different sets of questions:

- (1) The U.S. born FMG, who necessarily enters the FMG pool as a consequence of being denied admission to an American medical school, and
- (2) The foreign-born FMG who comes to the United States for graduate medical training. These FMGs form several FMG subpopulations (II-60):

- * FMGs who leave the U.S.
- * FMGs who come to the U.S. as permanent residents
- * FMGs who enter the U.S. as non-immigrants
- * FMGs who enter the U.S. as non-immigrants and later convert to immigrant status
- * FMGs who are in activities other than an office or hospital practice, or are in graduate medical education
- * FMGs in unapproved training programs
- * FMGs who are not accounted for but who supply "the underground manpower" supply in the health fields.

Characteristics of the Foreign-Born FMG

In 1970 one of every five physicians in the United States was an FMG (I-3). These FMGs have entered the U.S. in increasing numbers each year and are becoming permanent residents (II-16). They are found more often in graduate medical education positions (especially in nonaffiliated hospitals [II-33]) and in full time hospital care than USMGs (U.S. medical graduates II-24). They are most likely to be found in metropolitan areas, especially on the East Coast (II-25). FMGs tend to be younger and more often female than USMGs (II-21). They are less successful in obtaining unrestricted, permanent licenses to practice than USMGs (II-37). An unknown but substantial number are practicing with temporary or institutional licensure only (III-2). Those coming from English-speaking countries tend to be more successful in passing the U.S. medical licensure and credentialing exams (II-40). FMGs tend to migrate from one or more countries before reaching the United States; and 78% of the FMGs come originally from Asia, in contrast to 9% which come from Europe or areas which tend to be conversant in the English language or U.S. health care practices (II-17).

Attacking the Problems

There seem to be several major areas of concern regarding the foreign-born FMG:

- (1) Entry into the U.S. System, (2) The Educational Setting, (3) Admission to Graduate Medical Training and the Practice of Medicine in the United States, and (4) The Impact on Medical Manpower--both in hospitals and in medical practice.

(1) ENTRY INTO THE U.S. SYSTEM--There are three principal means by which the foreign-born FMG can gain access to the United States:

* As a J-Visa Exchange Visitor. In 1970 a requirement was abolished which required the physician entering the U.S. as an exchange visitor with a J-visa to leave the country for a minimum of two years before attempting to re-enter as an immigrant. Following the statutory change, 13% of the visitors who entered the country with J-visas in 1971 or 1972 changed their status to that of an immigrant in 1972 (II-2, 3, 4).

* As a physician seeking permanent residence as an immigrant within numerical limitations or labor limitations (II-4). The Department of Labor has classified physicians under "Schedule A" (not enough workers in the United States as a whole are able, willing, qualified, and presently available for employment as physicians [II-6]).

* As the relative of a U.S. citizen. Three-fourths of the FMGs entering the United States in 1971 did so through this mechanism (II-7).

A suggestion posed for CFMG consideration-- That exchange visitor legislation be reviewed in the light of the practice of using FMGs predominantly for medical services.

(2) THE EDUCATIONAL SETTING--In 1971-1972 there were 21,500 housestaff positions in the United States determined by 1400 hospitals (II-29). In contrast to 1964 when 63% of the FMGs were in non-affiliated hospitals, only 20% of the 1971 FMGs were in non-affiliated programs (II-33). It is unclear, however, whether this is the result of a demand by FMGs for better education or an increasing tendency by hospitals to become affiliated. Of those hospitals with approved internship and residency training programs, 98% participate in the NIRMP matching program, and the way has been cleared for FMGs to participate in this program.

In 1970 28.4% of the FMGs went into general practice, but the majority entered one of the five major specialties: internal medicine, general surgery, psychiatry, ob-gyn, and pediatrics (II-35).

There are five different routes by which foreign trained medical students may enter the American medical education programs:

1. Admission with advanced standing to American medical schools. The Coordinated Transfer Application System (COTRANS) was established by the Association of American Medical Colleges in cooperation with the National Board of Medical Examiners to assist American citizens studying in foreign medical schools with transfers with advanced standing to degree-granting U.S. medical schools. As many as 49 schools have expressed willingness in 1973 to consider such students, and in the past three years 23 to 30% of the students taking Part I, NBME have received a passing grade. Other methods for establishment of advanced standing can and are being developed.

2. Certification by ECFMG on the basis of satisfying the ECFMG educational requirements as well as passing the ECFMG examination.

3. Obtaining a full and unrestricted license to practice medicine, issued by a state or other United States jurisdiction authorized to license physicians.

4. In the case of United States citizens, successfully passing the complete licensure examination in any state or other licensing jurisdiction in which the law or regulations provide that a full and unrestricted license to practice medicine in that state or jurisdiction will be issued to the physician after satisfactory completion of his internship or residency in that state, without further examination. To be eligible for this route, the foreign medical graduate must have completed all educational requirements that would make him eligible for ECFMG certification should he choose to apply.

5. The new pathway ("fifth") substitutes clinical supervised training under a U.S. school approved by the Liaison Committee on Medical Education (LCME) for internship or social service required by a foreign school. A student must complete premedical undergraduate work in an accredited U.S. college at a quality which is high enough to be considered for matriculation in a U.S. school in order to qualify (II-54). A student could demonstrate evidence of such competence through successful performance on Part I of the NBME, the ECFMG examination, the FLEX examination, or the American Medical Screening examination. Other screening examinations proposed by sponsoring medical schools also are acceptable. At present students can obtain licensure to practice in eleven states through the fifth pathway.

Several suggestions have been proposed for CFMG consideration--

* That except for the COTRANS route and that in which candidates are accepted through passage of state licensure examinations, other methods are not satisfactory for assimilating the FMG into the U.S. health care system.

* That the educational needs of FMGs be reviewed and appropriate procedures recommended to those agencies responsible for graduate medical education with the insistence that admission of FMGs into graduate education programs be contingent upon the suitability of these programs.

* That recommendations be developed for policy statements regarding the general role of the U.S. in international medical education (if appropriate), and the specific role of graduate medical education.

* That present procedures for qualifying FMGs for entrance into the U.S. graduate medical education system be evaluated carefully by giving special attention to the problem of dual standards.

(3) ADMISSION TO GRADUATE MEDICAL TRAINING AND THE PRACTICE OF MEDICINE IN THE UNITED STATES-- Several screening mechanisms are available or being considered to try to assess the ability of the FMG to function effectively at various stages of the U.S. medical education program or practice of medicine. The ECFMG exam, which will admit an FMG to graduate training or apply for licensure is the least difficult. The FLEX examination, which is required for licensure in all but three states, is somewhat more stringent; and the NBME "Qualifying A" Examination, if adopted, would apply a single measuring standard to both USMGs and FMGs for graduate medical education. The requirements for board certification vary for each of the 22 specialty boards (diagram follows).

FMG SCREENING OR SELECTION MECHANISMS

EXAMINATION	DESCRIPTION	PERFORMANCE
Certification for Graduate Medical Education or Training ECFMG EXAMINATION	The ECFMG exam was developed in 1956 to identify the FMGs most likely to benefit from graduate medical training in the U.S. The NBME provides a pool of questions for which 95% of U.S. medical students would answer correctly. A passing score of 75% is required (II 8).	In 1972 32,000 FMGs had taken the exam with a pass rate of 38% (II 9, 42). Passage of the ECFMG exam is required for state licensure and appointment to hospital training programs
State licensure requirements FLEX EXAMINATION	The FLEX (Federation Licensure Examination) was instituted in 1968 to bring an element of standardization into state requirements for licensure. FLEX questions are in the middle range of difficulty and emphasize the practical value.	FMGs have a pass rate of 64% in comparison with 94% of USMGs (II 37). ECFMG will accept FLEX scores in lieu of the ECFMG examination for certification (II 10, 11).
Specialty Board Certification	The 22 U.S. specialty boards set their own individual requirements. These usually will include ① M.D. or equivalent, ② specified time period of postgraduate training, ③ written and oral examinations, and ④ citizenship, sometimes.	In 1970 23% of the FMGs vs 43% of the USMGs were board certified (II 44), although 30% of the FMGs were still in training and not eligible for board certification.
Single Standard for Graduate Medical Education NBME "Qualifying A" Exam	The NBME is proposing a single "Qualifying A" exam for both USMGs and FMGs in the interests of eliminating the dual standards for graduate medical education while evaluating performance characteristics required for providing patient care in a supervised setting. It is recommended the "Qualifying A" exam be coupled with a new evaluation instrument to assess English language ability and adaptation to the U.S. health care system (II 12).	Not yet given.

The figures in parentheses refer to the chapter and page on which the information is discussed in Report No. 74-47--BHRD/DNI/OIHNS (August 1973).

Action alternatives posed in the Federal Government report for seeking quality:

(1) terminate the present international educational exchange program and replace it with a more systematic and nationally coordinated international exchange program involving formal agreements between the U.S. and the governments of other countries;

(2) require all exchange visitors in the U.S. to return to their home countries after completion of their training and to reside in the home country for four years before becoming eligible to immigrate to the U.S.;

(3) establish basic professional standards for third and sixth preference immigrant visas and for "H" nonimmigrant visas, so that physicians admitted to this country to practice medicine are eligible for full licensure;

(4) support the development of "centers of excellence," especially in developing countries;

(5) establish an entirely new system of examination and evaluation, applicable to medical graduates of domestic and foreign schools alike and including the design of a new evaluation instrument for FMGs to assess English language capability and potential adjustment to the U.S. medical education and health care delivery system;

(6) modify the ECFMG regulations such that candidates would be limited to only one repeat examination;

(7) within a reasonable time period, require all physicians serving in public institutions, health maintenance organizations, or the National Health Service Corps or in other ways receiving payment under Medicaid or Medicare to be fully licensed in order for the program to qualify for continued Federal funding;

(8) provide support for special educational programs which would include acculturation, orientation and language training for FMGs who plan to remain in the U.S.; and provide funding for review courses for the ECFMG examination.

(4) THE IMPACT ON MEDICAL MANPOWER, both in Hospitals and Medical Practice-- While the educational system is concerned with obtaining and preparing a quality physician product, the public is concerned with the quality of the care received. In this sense quality can reflect purely technical and unitary measurements such as the number of specific services performed per time or manpower unit, or more subjective considerations; e.g. patient satisfaction in terms of time or money expended (II-57).

Two research projects conducted during the mid-1960s have compared the performance of FMGs and USMGs as residents. On the study involving surgery, internal medicine, physical medicine and rehabilitation residencies the overall proficiency of U.S. trained residents was considered substantially superior by both U.S. and foreign-trained residents (II-46). The second study involved personality profiles of surgery residents and indicated the foreign-trained surgeon was more readily accepted in the United States than the internist or specialist in physical medicine (II-47).

These studies, however, are quoted hesitantly, if at all. The question seems to involve manpower numbers and accessibility of medical care. For action alternatives in this regard, the BHRD/DHI/OHMS turns to mechanisms by which the U.S. FMG might be re-entered into the U.S. health manpower pool.

U.S. FMG Action Alternatives posed by the Federal Government report--

(1) write special stipulations (e.g., loan-forgiveness for practice in underserved areas) into any legislation providing loans, scholarships, or other stipends to FMGs;

(2) re-evaluate the classification of physicians on "Schedule A," in order to determine if there is, in fact, a nationwide shortage of physicians;

(3) expand the COTRANS program as a means of increasing the number of U.S. graduates;

(4) develop intensive review courses to prepare the U.S. medical student abroad in preparing for Part I of the National Board examination, thereby facilitating his entry into the COTRANS program.

Suggestions posed for CFMG consideration--

- * Review the projection on physician manpower and available residency positions in the U.S. from 1970 thru 1980 and evaluate the relative "needs" regarding FMGs
- * Review potential responsibilities to be borne by U.S. medical education towards American citizens studying medicine abroad.

SERVICE
EDUCATION
RESEARCH

ASSOCIATION OF AMERICAN MEDICAL COLLEGES
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JOHN A. D. COOPER, M.D., PH.D.
PRESIDENT

WASHINGTON: 202: 466-5175

November 30, 1973

Executive Secretariat
Cost of Living Council
2000 M Street, N.W.
Washington, D.C. 20508

RE: Proposed Phase IV Health Docket: General (§§150.501-.504) and Acute
Care Hospitals (§§150.516-.523)

Gentlemen:

The purpose of this letter is to express the views of the Association of American Medical Colleges (AAMC) regarding the proposed Phase IV Health Care Regulations as published in the Federal Register November 6, 1973 (6 CFR Part 150). The Association, through its Council of Teaching Hospitals, represents 400 of our largest tertiary care - teaching hospitals, as well as all of the nation's schools of medicine and 59 academic societies.

Fundamental Position

As proposed, the regulations would impose arbitrary ceilings upon both inpatient charges and expenditures per admission. These limitations will effect fundamental medical decisions such as the length of a patient's hospital stay and the intensity of that patient's treatment in terms of both the type and amount of services provided during that stay. The American Hospital Association (AHA) has raised serious questions regarding the legality of the proposed regulations. Specifically, the AHA holds that: (1) the Cost of Living Council will exceed its legal authority if it proceeds to formally adopt the regulations as presently proposed; (2) the proposed regulations violate the Medicare law in that they compromise the assurance that hospitals will be reimbursed for the "reasonable costs" of providing services to Title XVIII beneficiaries; and (3) the proposed limitations on per admissions charges and expenditures are contrary to sound medical practice and to the provision of adequate community health services. The AAMC believes these are reasonable and responsible assertions, and the Association supports the position of the AHA in this regard. Given the stated position of the American Hospital Association, the legitimacy of the aforementioned assertions will, no doubt, be considered by the courts.

If the regulations are implemented, in substance, as proposed the industry might be faced with the necessity of operating under them while litigation is in process. Given this possibility the Association has chosen to submit substantive comments on the regulations as currently proposed. It is the Association's position that adoption of the modifications noted below will increase the interim workability and decrease the onerousness of the proposed regulations.

Recommended Modifications In Proposed Regulations

The Association strongly urges that the following modifications be made in the regulations prior to formal adoption and implementation by the Cost of Living Council. The first seven recommendations are of particular importance to teaching hospitals. The rationale underlying certain suggested modifications and the impact of the proposed regulations on the nation's teaching hospitals will be more fully developed in a subsequent section of this letter.

(1) The entire structure, criteria and process of the exceptions procedure should be published with an appropriate time period for comment prior to the effective date of the Phase IV regulations. The industry's experience with the exceptions process to date has been highly unsatisfactory and confidence in such procedures can only be developed through competent leadership, adequate staffing, a reasonable response period and published specific criteria. Adoption of the following recommendations would substantially improve the exceptions process.

(a) Exceptions requests should be acted upon no later than thirty days following receipt of the request; failure to act should result in a decision granting the requested exception to the petitioner.

(b) Following prenotification, certain self-executing exceptions should be permitted:

(i) in those instances where charges are lower than cost;

(ii) where specified costs are beyond the control or jurisdiction of the individual hospital such as: increased costs resulting from actions of the Joint Commission on Accreditation of Hospitals or the State Health Department; wage exceptions granted by the Cost of Living Council; excessive price increases in decontrolled sectors of the economy as well as excessive price increases which have been granted by the Cost of Living Council in controlled portions of the economy;

(iii) where approval of specific capital projects have been granted by the designated state agency acting pursuant to §227 of P.L. 92-603 (in these cases, both the expense and charges generated from the capital project should be excluded from the current

year charge and expense base upon which the hospital determines compliance for a period of three fiscal years beyond the completion of the project).

- (c) Specific and interpretable guidelines must be developed regarding the manner in which alterations in case mix can be demonstrated for the purpose of obtaining an exception to base allowable limits of charge and expense per admission increase.
- (d) In order to provide credibility, equity and administrative fairness, an Appeal Board should be established to handle exceptions. The composition of such a board should include fifty percent provider representation, and should report directly to the Director of the Cost of Living Council. Additionally, the Board should have a separate staff of hearing officers and an Executive Secretariat.

The equity of the exceptions process is particularly critical to teaching hospitals since it is these institutions that will be experiencing alteration in case mix, adding new services, and developing new health technologies. Indeed, initial analysis indicates that fully fifty-eight percent of COTH member hospitals would be out of compliance under the proposed regulations and thus would require an exception.

(2) The basic limitation on a hospital's increases in inpatient charges and expenses per admission in any fiscal year should be raised from 7.5 to 9 percent. This recommendation is particularly important for teaching hospitals which will be experiencing higher than average cost increases, and which will be predictably experiencing a change in case mix resulting in services with more intensity and complexity.

(3) The corridor within which hospitals are allowed the base amount of charge and expense per admission increase should be raised from two to five percent.

(4) Assumptions regarding the proportion of a hospital's costs that are fixed and variable do not appear to be formulated on the basis of either empirical evidence or operational reality (see text and citations associated with footnotes 2-10). For increases in admissions in excess of +5.0 percent, variable cost should be defined as sixty percent of average cost. For decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost.

(5) The limitation on price or cost increases for outpatient services should be set at a level consistent with inpatient limitations. This is particularly important since the proposed regulations provide no incentive to transfer a low cost inpatient procedure or service to a high cost ambulatory service or procedure; indeed, the proposed regulations provide a disincentive for such action.

(6) Embodied in the outpatient service section is a "class of purchaser" concept which applies to all instances where outpatient services, by contract or legislation, are reimbursed on a cost basis. The "class of purchaser" concept should be omitted, and compliance should be evaluated on a aggregated occasions of service basis.

(7) Due to both functional and organizational rearrangements as well as the anticipated implementation of specific legislation (e.g., Section 227 of P.L. 92-603) hospitals, particularly teaching institutions, are continuing to experience alterations in the manner in which physicians are compensated. The last decade has witnessed significant increases in the number of physicians who are compensated for professional services provided by institutional funds rather than by reasonable charges per unit of service rendered. Therefore, the Association urges that where hospital charges and/or expenses are altered due to a change in the basis for the remuneration of physicians, the hospital be allowed to adjust for such changes by altering the amount of total charges/ expenditures in either the base or control year for the purpose of computing the compliance calculation. For example, if a hospital experiences an increase in charge/expense of \$300,000 due to an increase in the number of practicing physicians on the hospital payroll during a specific control year it should be, for the purpose of calculating charge/expense per admission, allowed to: 1) increase the total charges/expenses of the base year by \$300,000 or 2) deduct \$300,000 from the total charges/expenditures of the control year.

(8) There should be an optional starting date for hospitals to become subject to the new regulations. Hospitals with fiscal years beginning after June 30, 1973 and before July 1, 1974 should have the option of functioning under Phase III or Phase IV.

(9) Both the charge and expense limitations should be reviewed and updated at specified periods based on the latest data of the consumer and wholesale price indices. This is necessary since the original limitations have been constructed with specific estimated percentages by class of expense in the non-wage category.

(10) A section on "violations" should be included in the regulations. Nowhere in the proposed regulations is there any indication of what action will be taken if limitations in the regulations are exceeded. Proposed regulations regarding the manner of handling violations should be published; hospitals and other interested parties should be given an opportunity to comment prior to the time that the Phase IV regulations are effective.

(11) Any state or the District of Columbia should be required to demonstrate broad provider acceptance before applying to the Cost of Living Council for authorization to administer the state control program in lieu of administration of the program by the Cost of Living Council.

(12) §150.517(e) should apply for beds which are licensed but not in use, and the application of the limitations should not apply until the third fiscal year following the increase in bed complement.

Impact On Teaching - Tertiary Care Hospitals

The Association of American Medical Colleges strongly believes that it is the nation's teaching hospitals which will be most severely affected by the proposed rules. Such rules, if implemented, will seriously erode the capability of our teaching hospitals to continue in their efforts to serve as the institutions where new technology and medical procedures are developed, refined and implemented and will inhibit their ability to provide highly sophisticated (and increasingly more expensive) tertiary care services. These observations are developed in detail below:

CLINICAL INVESTIGATION AND DEVELOPMENTAL FUNCTIONS. Teaching - tertiary care hospitals are the primary locus of health services clinical investigation and development. New methods of treatment, innovative types of health manpower and patient care team configurations, as well as new types of medical technology are developed, initially utilized and refined in such hospitals for eventual deployment throughout the health services industry. Teaching hospitals must recruit and retain large numbers of highly trained personnel. They must purchase and develop highly sophisticated and increasingly expensive equipment, modify and improve on it so that such technology, if beneficial, can be applied on a broader scale. The development of such health technologies as transplantation, neo-natal intensive care, cardiac intensive care and radio-holographic brain scanning are testimony to the effectiveness and efficiency of the nation's teaching hospitals in translating biomedical and bioengineering research into significant patient care procedures. One would expect that this clinical investigation and developmental involvement would be associated with both larger absolute costs and higher rates of cost increase. Indeed, a recent econometric study demonstrates that the rate of cost increase is 1.7 times greater for major teaching hospitals than community (non-teaching) hospitals even when controlling for absolute average cost, location, bed size and utilization.¹

The regulations as proposed are detrimental to and penalize those institutions that are significantly involved in health services clinical investigation and development functions. If implemented as proposed, the regulations would inhibit both the development and application of new technologies. Given the aforementioned rationale the Association strongly urges the adoption of recommendation (1)(b)(iii) previously detailed. Additionally, since many clinical investigation and developmental activities are not directly related to capital expenditures (e.g., alterations in the type of manpower and the nature of treatment modalities), it is further proposed that specific guidelines be developed so that exceptions can be sought and subsequently obtained for increases in costs associated with such innovations.

ALTERATIONS IN CASE MIX. Given the nature of the proposed regulations there will be a direct and immediate stimulus for some hospitals to reduce expenditures and lower lengths of stay by attempting to reduce the number of

¹ Judith R. Lave and Lester B. Lave, "Hospital Cost Functions", American Economic Review, Vol. 7 (June 1970), pp. 379-395.

admissions requiring complex and/or sophisticated treatment modalities. These cases will undoubtedly find their way into the nation's teaching hospitals. When viewed in isolation, the anticipated incremental shifting of tertiary patients to tertiary hospitals has laudable planning and regionalization effects. However, under the proposed regulations, the nation's teaching hospitals are not given the means to cope adequately with this development. The impact of an increased flow of complex cases into teaching hospitals, given the structure of the proposed regulations, would have a two-fold effect upon such facilities. First, increases in admissions will be those of the relatively high expense category with larger than average lengths of stay causing the average expense per admission to increase -- thereby heightening the probability of non compliance with the proposed regulations. Second, if the admissions of such facilities increase in excess of two percent over a base year, only forty-three percent of that base year's expense per admission will be deemed allowable. That is, teaching hospitals experiencing increases in increasingly costly cases will be allowed only fractional (43 percent) increases in expenses to provide such care.

Given the nature of the teaching hospital's mission, it is unrealistic to expect that such institutions would either directly or indirectly attempt to limit the increase of admissions requiring tertiary services except as a last resort to preserve institutional survival. The regulations as presently proposed would severely penalize institutions for avoiding such action. One would expect, however, that teaching hospitals would be forced to limit the expansion of already existing tertiary services when capacity is reached and to avoid or delay the implementation of new tertiary services as their clinical efficiency is demonstrated. Limiting the expansion of already existing services when current capacity is reached would inhibit the efficient utilization of such services by mitigating the distribution of relatively high developmental costs over increasing volume. Decisions not to develop and/or implement new tertiary services based upon arbitrary economic guidelines would inhibit medical progress and completely circumvent professional judgments regarding the efficacy of such services.

For the aforementioned reasons the Association urges the development of clear and implementable guidelines regarding the consideration of exceptions on the basis of alterations in case mix as previously specified in recommendation (1)(c). Additionally, to allow a greater degree of operational flexibility the Association urges the adoption of a widening of the admission increase corridor as detailed in recommendation (3).

FIXED AND VARIABLE COSTS. The proposed regulations assume that the fixed and variable cost of hospital operations are sixty and forty percent respectively of average cost. Listed below are estimates of marginal cost (MC) as a proportion of average cost (AC) obtained by all known econometric analyses of hospitals conducted during the last four years.

<u>Authors (Date of Research)</u>	<u>Estimate of MC/AC</u>
Berry and Carr (1973) ²	0.84 - 0.96
Kuenne (1972) ³	0.65 - 0.91
Lave, Lave and Silverman (1972) ⁴	0.68
Evans and Walker (1972) ⁵	0.80 - 0.90
Evans (1971) ⁶	0.76 - 0.86
Lave and Lave (1970a) ⁷	0.40 - 0.65
Lave and Lave (1970b) ⁸	0.58 - 0.68
Cohen (1970) ⁹	0.67
Francisco (1970) ¹⁰	0.73 - 0.87

² Ralph E. Berry, Jr. and John W. Carr, Jr., "Efficiency in the Production of Hospital Services," unpublished paper (June 1973).

³ Robert E. Kuenne, "Average Sectorial Cost Functions in a Group of New Jersey Hospitals," Research Monograph #1 (Princeton University: General Economic Systems Project, October 1972).

⁴ Judith Lave, Lester Lave and Larry Silverman, "Hospital Cost Estimation - Controlling For Case Mix," unpublished paper (1972).

⁵ Robert Evans and H. Walker, "Information Theory and the Analysis of Hospital Cost Structure," Canadian Journal of Economics, Vol. 5 (August 1972), pp. 398-418.

⁶ Robert Evans, "Behavioral Cost Functions For Hospitals," Canadian Journal of Economics, Vol. 4 (May 1971), pp. 198-215.

⁷ Judith Lave and Lester Lave, "Hospital Cost Functions," American Economic Review, Vol. 6 (June 1970), pp. 379-395.

⁸ Judith Lave and Lester Lave, "Estimated Cost Functions for Pennsylvania Hospitals," Inquiry, Vol. 7 (June 1970), pp. 3-14.

⁹ Harold Cohen, "Hospital Cost Curves With Emphasis On Measuring Patient Care Output," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 279-293.

¹⁰ Edgar Francisco, "Analysis of Cost Variations Among Short-Term General Hospitals," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 321-332.

Additionally, an analysis conducted at a large midwestern university owned hospital found that variable and fixed costs were 65 and 35 percent respectively.

Even though heterogeneous, all of the estimates provided above are in excess of the variable cost allowance provided for in the proposed regulations. The nature of the variability across studies (based upon different subsets of hospitals) and type of control variables employed within each study (case mix, size, utilization, etc.) appears to indicate that the proportion of costs that are fixed and variable are specific to an individual hospital at a given time depending upon the nature of the product produced, the scale of production, the percent of capacity at which the institution is operating and the method employed to finance capital facilities.

Given these observations (and elaborating on recommendations (3) and (4) noted previously) it is reasonable to suggest that increased flexibility be provided to different hospitals operating under different circumstances and constraints. In line with the aforementioned comments this could be accomplished in either or both of two ways. First, we urge that the corridor within which hospitals are allowed the full allowable amount expense/charge increase (107.5 percent of the previous year's base) be widened to a zone encompassing increases in admissions less than +5.0 percent to decreases in admissions less than -5.0 percent. Second, the regulations should be altered to recognize more reasonable specifications of variable costs consistent with empirical evidence and operational realities. The Association urges that for increases in admissions in excess of +5.0 percent, variable cost be defined as sixty percent of average cost. This figure is consistent with empirical findings and takes account of the fact that variable costs increase proportionately greater than admissions when occupancy increases. On the other hand, for decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost. This allowance takes adequate account of the fact that significant declines in occupancy, over the short run, in no way reduces gross expenditures as an adequate capacity must be maintained to meet the demands for service when occupancy increases. The adoption of these recommendations are particularly critical to teaching - tertiary care institutions as variable (marginal) costs are a large proportion of average cost given marginal increases in increasingly complex and hence high expense admissions.

OUTPATIENT SERVICES. The proposed regulations provide that outpatient cost and prices may increase by no more than six percent as determined by either an individual unit or an aggregated weighted calculation (in those cost centers where outpatient services account for at least seventy percent of total billed charges or costs). Furthermore, the regulations provide that where outpatient services are reimbursed at cost, the six percent allowable increase (per occasion of service) is to be applied to each class of purchaser considered individually.

Teaching hospitals have served as the leader in developing new modes of providing ambulatory care and expanding the delivery of such services to increasingly broader population groups. For example, the outpatient departments

of many teaching hospitals are serving as the base for the development of family practice clinics and comprehensive ambulatory care centers. Additionally, teaching hospitals have led the way in the transferrance of many medical procedures from an inpatient to an outpatient base. Creation of new modes of ambulatory care provision generally entails an increasing intensity of the amount and nature of the care provided per occasion of service (e.g., comprehensive family care versus episodic treatment), such developments are penalized under the proposed regulations. The transferrance of procedures provided on an inpatient basis to those provided on an outpatient basis would entail the conversion of a relatively low cost inpatient admission to a relatively high cost outpatient visit, engaging in such action drastically heightens the probability of non compliance for both outpatient and inpatient activities. Therefore, the Association urges that the allowable rate of expenditure and revenue per occasion of service increase be raised so that it is at least equal to the rate of increase provided for expense and revenue per inpatient admission (9.0 percent) -- see recommendation (10). Additionally, we recommend that the class of purchaser provision (§150.518(c)) be struck from the regulations when formally adopted -- see recommendation (11).

As evidenced above the Association of American Medical Colleges has deep concern and substantial reservations regarding the Phase IV regulations as they are presently proposed. Indeed, we are convinced that the proposed regulations will erode the ability of the nation's teaching hospitals to translate the results of biomedical research and development into effective diagnostic and therapeutic procedures, and to serve as the locus for the provision of intensive and complex tertiary care services. The Association stands ready to elaborate upon specific observations and/or recommendations presented in this letter.

Sincerely,

JOHN A. D. COOPER, M.D.
President

DISTINGUISHED SERVICE MEMBERS

At the COD Annual Meeting the following persons were nominated by the Council for Distinguished Service Membership in the AAMC. The election process requires an affirmative vote of the Assembly upon recommendation of the Executive Council,

Carleton B. Chapman, M.D.
Robert J. Glaser, M.D.
John R. Hogness, M.D.
Robert B. Howard, M.D.
William N. Hubbard, Jr., M.D.
Thomas H. Hunter, M.D.
Robert Marston, M.D.
David Rogers, M.D.
Charles C. Sprague, M.D.
Robert S. Stone, M.D.

By way of background, the following, previously elected Senior Members are now by virtue of the Assembly action in November, Distinguished Service Members.

William G. Anylan, M.D.
Peter P. Bosomworth, M.D.
Kenneth R. Crispell, M.D.
Merlin K. DuVal, M.D.
George T. Harrell, M.D.
Philip R. Lee, M.D.
Manson Meads, M.D.
Richard R. Overman, M.D.
John W. Patterson, M.D.
Robert D. Sparks, M.D.

REPORTING STATE LEVEL DEVELOPMENTS

The role of the states in the support and regulation of medical education, while previously quite substantial, may become increasingly more significant with the administration's avowed intention to seek a diminished role. Other factors reinforce this conclusion: the states are showing balanced budgets and budget surpluses; revenue sharing will provide additional un-earmarked funds; the VA medical schools programs will require a state level initiative; the FMG problem and the fifth pathway have generated substantial local political pressures; the N.Y. Board of Regents is seeking a doubling of the enrollment in all of the N.Y. schools--public and private; several state legislatures are seeking devices to increase the retention of local graduates and to influence their selection and practice location; at least one legislature has sought to determine the departmental structure and curriculum content of the medical schools; several states are providing explicit support for house staff salaries and educational costs.

While the schools within a state are undoubtedly sufficiently cognizant of these developments, it is unlikely that others are. Because legislators and state officials exchange information, however, it is probable that developments in one state will influence and stand as precedents which others may follow. It may, therefore, be of value to the AAMC constituents to have a means for sharing such information on a regular basis.

The AAMC has explored several approaches to this end. There are several reporting services with stringers in each state capital capable of providing the needed information. This approach appears infeasible however, because 1) the service would cost many thousands of dollars, 2) the reported material would be of such volume that it would require substantial staff to sift it for relevant material, and 3) at this distance the judgments of relevance and/or impact would be quite difficult to make.

A second approach which seems to be feasible would be to request that at least one school within each state designate a person to report significant developments to the AAMC which would in turn compile and disseminate the information to its members. While a school would gain little benefit from its own efforts directly, its return would come from the information provided by the other schools.

Other approaches may be possible.

Questions: Does the AAMC have a valid role in this matter?
Is it appropriate to ask this effort of the schools?
Is this an appropriate expenditure of AAMC resources?

In short, should the AAMC proceed to develop an approach to eliciting and reporting state activity? If so, what should be the configuration of its efforts?

AAMC Committee on Health Manpower

Report

Introduction

The Executive Council appointed the AAMC Committee on Health Manpower to develop an Association response in view of the approaching expiration on June 30, 1974, of the various authorities in the Comprehensive Health Manpower Training Act of 1971, the basic legislation dealing with federal support of health professions education.

The members of the committee who participated in its activities were Julius R. Krevans, M.D., Dean, University of California-San Francisco School of Medicine; Merlin K. DuVal, M.D., Vice President for Health Sciences, The University of Arizona College of Medicine; David R. Hawkins, M.D., Chairman, Department of Psychiatry, University of Virginia School of Medicine; Morton D. Bogdonoff, M.D., Chairman, Department of Medicine, The Abraham Lincoln School of Medicine; Sidney Lewine, Director, Mount Sinai Hospital of Cleveland; John C. Bartlett, Ph.D., Associate Dean for Health Affairs and Planning, University of Texas Medical School-Houston; Hugh E. Hilliard, Vice President for Finance and Treasurer, Emory University School of Medicine; and Bernard W. Nelson, M.D., Associate Dean for Medical Education, Stanford University School of Medicine. Dr. Krevans served as Chairman of the committee.

In authorizing appointment of the committee, the Executive Council charged it with reviewing the expiring authorities of the Comprehensive Health Manpower Training Act of 1971 and with recommending to the Executive Council appropriate modifications which the Association should support in working with Executive and Legislative officials on the extension of the expiring authorities. In its work, the committee reviewed the present federal health professions education assistance programs, the progress to date of the AAMC Committee on the Financing of Medical Education, and the provisions of known legislative proposals on health professions education assistance. The committee agreed to certain principles which should underlie the federal role in health professions education and developed a set of recommendations based on those principles.

This report sets out the committee's principles and recommendations and provides some additional explanatory material the committee considered useful in understanding fully its positions.

Principles

The AAMC Committee on Health Manpower believes the following principles should guide the federal role in health professions education.

There should be --

1. Stable, continuing, fiscally responsible federal support for medical

schools' educational activities, special projects and initiatives, student assistance, and capital expenses;

2. First-dollar capitation support of the undergraduate educational activities of the medical schools;

3. Project-grant support for special projects and initiatives reflecting national priorities and special emphasis fields;

4. Direct loans and scholarships to help meet student financial needs, with options for voluntary participation in loan forgiveness programs or service-obligation scholarship programs; and

5. Grants and loan guarantees with interest subsidies to meet physical plant replacement needs and to develop or expand new types of facilities such as ambulatory care facilities.

Recommendations

The AAMC Committee on Health Manpower recommends that legislation embodying those principles should be developed that provides fiscally responsible levels of funding in line with overall national priorities and that encourages prudent institutional planning over a five-year period beginning July 1, 1974.

The committee's specific recommendations follow, grouped under headings of institutional support, special projects, student assistance and capital support:

Institutional support

* 1. Delete the present capitation formula for schools of medicine, osteopathy, and dentistry and substitute a new formula of \$6,000 per student per year, with half of the \$6,000 tied to meeting certain conditions: \$1,000 per student per year for increasing first-year enrollment by the greater of 5 percent or 10 students; \$1,000 per student per year for developing or supporting programs emphasizing the teaching of primary care in ambulatory settings; \$1,000 per student per year for developing or supporting model health care delivery systems in shortage areas.

2. Provide the capitation support as an entitlement with no separate authorization of appropriations.

3. Delete present provisions on enrollment bonus students.

4. Delete the present enrollment increase requirement.

5. Retain the present maintenance of effort provisions.

6. Delete the present provisions requiring a plan of action in certain areas as a condition of obtaining capitation support.

7. Extend unchanged the present programs of start-up and conversion assistance.

8. Extend unchanged the present program of financial distress grants and authorize appropriations of \$10 million per year (fiscal 1974 level).

Special projects and initiatives

1. Delete the following present programs: special projects, health manpower education initiative awards, grants to hospitals for family medicine training, capitation grants for graduate training in certain specialties, grants for health professions teacher training, and grants for computer technology health care demonstrations.

2. Substitute for those programs a new, consolidated program of special initiative awards under which the HEW Secretary could award grants and contracts for carrying out projects in three broad areas: (1) health professions education development; (2) special national emphasis programs; and (3) health care practice and the use of health care personnel.

3. Authorize the appropriation of such sums as may be necessary, and provide that appropriated funds are to remain available until expended.

Student assistance

1. Increase the present \$3,500 loan ceiling to \$4,500 per student per year.

2. Delete the present loan forgiveness formula and substitute a new formula providing 100 percent forgiveness for two years' service in a designated area.

3. Authorize appropriations of \$70-\$75-\$80-\$85-\$90 million (15,000 students currently aided at \$4,500 per year, plus growth of need for loans).

4. Delete the loan program for U.S. students abroad.

5. Increase the present \$3,500 health professions scholarship ceiling to \$4,500 per student per year.

6. Delete the present entitlement formula and substitute a new formula of \$4,000 times the greater of one-tenth the number of full-time students or the number of students from low-income backgrounds.

7. Delete the health professions scholarship program for U.S. students abroad.

8. Increase the present \$5,000 physician shortage area scholarship ceiling to \$6,000 per student per year.

9. Delete the present shortage-area service requirement and substitute a new service requirement of two years in a designated area regardless of the time support was received.

10. Authorize appropriations of \$13.5 million per year (5-percent student participation).

Capital support

1. Authorize appropriations, for medical schools alone, of \$200 million per year, and provide that appropriated funds are to remain available until expended. Participation of other schools will raise the funding level.

2. Delete the enrollment increase requirement.

3. Extend unchanged the present loan guarantee and interest subsidy program, including the present appropriations limitation for interest subsidies of \$24 million.

Commentary

The AAMC Committee on Health Manpower believes there is an appropriate role for the federal government in helping to meet some of the costs of undergraduate medical education. Undergraduate medical education is composed of interacting elements integral to a unified process leading to the M.D. degree. The elements of this process are the instructional activities covering the imparting of disciplinary and interdisciplinary subject matter through lectures, seminars and laboratory exercise; participation in the care and management of patients; and training in research methods for the solution of problems in health. The cost of the elements is high, and in the past has been shared by the federal government, state and local governments, medical schools themselves through tuition and endowment income, private foundations and others. The federal role has been justified because of the national mobility of physicians and because of an underallocation of resources to medical education by the private sector. In seeking an appropriate federal share, the committee agrees with the report of the Senate Committee on Labor and Public Welfare, accompanying the Comprehensive Health Manpower Training Act of 1971: "The bill ... entitles each educational institution to an award intended to cover approximately one-third of the average per-student educational costs incurred nationally by such institutions The costs of research and the

costs of patient care are integral to per-student costs of the institution. And ... they shall be included in the calculation of costs for the purpose of applying for their entitlement grant."

The AAMC Committee on Health Manpower believes there is a federal interest in the financial viability of medical schools as institutions, in equalizing financial opportunities for medical education, and in carrying out certain nationally determined special projects for which medical schools are particularly well suited.

Institutional support

Beginning with the White House Conference on Aging during the midyears of the Eisenhower Administration and continuing to the present, there is a growing agreement that access to health care is a right. This is a concept that has been endorsed by important political figures of both parties in both the House and the Senate; it was included as part of President Nixon's health message to Congress in February 1971; and it was a main theme of a White Paper issued by the Department of Health, Education and Welfare in 1971: Towards a Comprehensive Health Policy for the 1970s. This concept carries with it implications which are crucial to understanding the federal role in support of the undergraduate medical education activities of medical schools.

There is no way in which the right of access to adequate health care can be claimed or delivered without trained health personnel. Since the public has a claim for access to adequate health care, it must follow then that the public has a legitimate interest in sustaining the production of health personnel. Because of the setting in which education in the health professions is conducted, the educational expense is necessarily a joint product. This fact

means that the expenses of the environment of a health professions education are the integrated expenses of instruction, research and medical service. This is so because health professionals are educated in an academic environment, by the research and development arm of the medical profession, some would say, rather than undergoing an apprenticeship process in which they are educated directly by practicing physicians.

Recognizing the issues of joint costs, the federal government in 1971 put in place a program which called for direct support of the education activities of health professions schools through a capitation grant. Through this device, the government acknowledged the legitimate public interest in the continuity and integrity of health professions educational institutions. The capitation grants have enabled the schools to respond to the need for increased numbers of health professionals. In doing so, the schools have expanded their facilities and have made commitments to new faculty and new programs which now must be sustained if the objectives are to be achieved. In addition, through the device of capitation, the government recognized the value of the establishment of a creative partnership between itself and the academic health centers for the purpose of permitting leverage through which national purposes could be achieved.

The recommendations of the AAMC Committee on Health Manpower that capitation support be extended for five years, that the level of capitation be set at \$6,000 per student per year, that capitation be an entitlement, and that half of the capitation be tied to complying with certain conditions are based on the following factors:

1. The \$6,000-per-student-per-year capitation level corresponds with approximately one-third of the average of the annual cost per student for the elements of instruction, research and medical service at 12 schools studied by the AAMC Committee on the Financing of Medical Education. Further, adjusting the present \$2,500-per-student-per-year capitation level, which was based on 1969-70 data, for rising costs projected to the midpoint of a five-year program of support also approaches \$6,000 per student per year, when allowances are made also for rising research and medical service costs. Significantly increased capitation levels are needed also to help offset declines in other support, such as research training and the practice income from clinical faculty. The Committee wishes to point out that while a \$6,000 capitation level may appear significantly higher than the present \$2,500 level, the \$6,000 level is only modestly increased over the level recommended in 1971 by the Association when the present legislation was under consideration. The \$2,500 level is one determined by the Congress. The Association's 1971 capitation recommendation was \$5,000, which, if adjusted upward for rising costs, stands at \$6,000 in current dollars.

2. Converting the program to an entitlement and extending it for five years act together to encourage rational institutional planning, based on the program's continuity and predictability of support. With short-lived programs and fluctuating support levels, rational institutional planning is impossible.

* 3. Coupling a portion of the capitation support to compliance with certain conditions acknowledges the schools' responsibility to contributing to improvements in the nation's health care while recognizing the additional costs associated with such projects. The responsibility of the schools goes

* beyond mere numbers of M.D. graduates; it includes the kinds of training experiences available for medical students and the kinds of health care delivery systems being developed to provide needed health services. In terms on manpower, for example, in the 10 years since federal aid to health professions schools was initiated, the number of schools has increased from 87 to 114; enrollment has increased from 32,001 to 47,259; and graduates have increased from 7,336 to 10,000 per year. The AAMC Committee on Health Manpower is confident that record can be repeated under its proposed capitation system for developing new kinds of physicians and improved methods of delivery.

Special projects and initiatives

There is a useful role for the project-grant approach to financing selected activities in health professions schools. This approach recognizes the incremental cost to the school of such a project and clearly separates the financial support for the project from the general pool of financial support for the basic undergraduate medical education program. Special projects serve as a vehicle for the health professions schools to participate in constructive change in the interest of improving the health and health professions education of the nation. Competitive rather than formula awards strengthen the entire health professions education system by ensuring heterogeneity; homogeneity would produce rigidity and resistance to any change. Competitive awards also allow research and demonstrations without total system involvement.

A problem with the current programs is that they have proliferated over time into an almost unintelligible patchwork of authorities whose complexities pose problems for both applicants and administrators. The AAMC Committee on Health Manpower Education therefore proposes a simplified program of special initiative awards which would permit the federal government to select

its own priority projects, the institutions or combinations of institutions to carry them out, and the levels of funding at which the government wished to support its priority projects. For this reason, the AAMC Committee did not recommend any specific levels of funding, although the AAMC is prepared to work with others in determining appropriate levels.

Student assistance

The Association of American Medical Colleges is committed to the goal that there should be equality of opportunity for students wishing to attend medical school. A major barrier denying equal opportunity is the high cost of medical education that must be borne directly by the student. The existing health professions education assistance legislation traces its origin to student aid programs designed specifically to assist the socioeconomically disadvantaged student in entering medical school. The health professions loan program and the health professions scholarship program have constituted a major source of student aid for medical students. Since their implementation, the medical profession has been enriched by the addition of students with a greater diversity of socioeconomic backgrounds.

During the past five years, American medical schools have made substantial progress in improving the representation of minority groups in medical school programs. The enrollment of minority groups in the fall of 1973 is 7.4 percent of the first-year enrollment. The AAMC has adopted a goal of 12-percent minority representation in entering classes by September 1975. The AAMC reiterates its belief, as did the AAMC Task Force to the Inter-Association Committee on Expanding Educational Opportunities in Medicine for Blacks and Other Minority Students in 1970, that financial assistance in the form of grants and loans is a critical factor if these goals are to be achieved. Without scholarship support

the acutely disadvantaged are forced to borrow sums of money that may exceed the earnings of the entire family. Many are persuaded that the risk of such a debt is too great for them to take -- an assessment frequently reinforced by the family's experience with past debts.

Equally fundamentally, an emphasis on loans focuses student attention on the future earnings of the physician. Thus it would be predictable that the student's interest in earning large sums of money would be reinforced by his need to borrow large sums as a student. This is not a desirable characteristic to be sought in students; and it is detrimental to the efforts of the country to develop a physician population interested in developing modes of practice that are less costly to the patient and to the nation.

The AAMC believes that the success of continuing efforts to recruit individuals from minority backgrounds into the medical profession will depend on the continuation of federally sponsored scholarship and loan programs for medical students. In particular, scholarship funds are needed to insure the representation of minority groups and the representation of students from socioeconomically disadvantaged backgrounds. These students enter medical school with large debts incurred during their undergraduate years. These debts, coupled with the debts incurred during medical school, make it commonplace for a student to leave medical school with debts of \$15,000 or higher.

It has been suggested that educational debts of a medical student could be forgiven in return for practice in designated areas or that scholarships should be made available on condition that the recipient later practice in a designated area. The AAMC has no objection to this approach, provided that it is offered as an alternative to a non-obligatory assistance program and provided further that participation is voluntary.

There is a great diversity of talent and ability among the socioeconomically disadvantaged, and these skills and abilities should be matched with the diversity of opportunity in medicine. The Association does not believe that a loan program that indentures a student to a particular form or area of practice is consistent with the goal of achieving equality of educational opportunity. Many of the proposals for the forgiveness of debt for practice in underserved areas restrict the participant to a fixed professional pathway. Over the long term, the Association does not believe that such an approach will attract to the profession the diversity of talent needed to meet society's needs. The Association believes there is a role for different and multiple approaches to the problem of financing the student costs of medical education.

The debt of students entering medical school is growing rapidly and is commonly underestimated. The Association believes that a limit on the amount of debt assumed by a student to meet the expense of attending college and medical school is reasonable. Excessive debt will reinforce the trend toward higher physician income. The Association believes it is only logical for physicians to focus their attention on higher fees if the government endorses the view that the future earnings of physicians should serve as the source of funds for repayment of educational expenses.

Loan guarantees as a sole source of debt financing of health professions education are unacceptable, although they may be offered in addition to a program of direct loans. A loan guarantee program, subject to the vagaries of the money market, removes from the educational institution all judgment concerning the individuals to whom loans are made, as well as the amount loaned, and places such judgment in the banks.

The AAMC Committee on Health Manpower recommends increasing the health professions loan and scholarship ceilings in recognition of rising medical student expenses, now estimated at between \$4,000 and \$5,000 per student per year. The shortage area scholarship ceiling was raised in an effort to make the program more attractive. Service periods were stabilized at two years to equalize the burden of service to participating students and to provide a uniform period of career interruption, intended to facilitate improved career planning.

Capital support

The appropriateness of a federal role in the construction and maintenance of medical school facilities parallels the federal role in the support of undergraduate medical education. And, as in the case of undergraduate medical education, the cost of capital expansion also is shared by the federal government, state and local government, the institution itself, and various private and other outside sources.

The recommendations of the AAMC Committee on Health Manpower include continued grant support because teaching facilities are inherently cost-generating rather than income-producing. As a result, income from the operation of such facilities can not be used to amortize the cost of the facility. Thus debt financing for such facilities is totally inappropriate. At the same time, other types of facilities, such as ambulatory care centers, are potentially income-generating, and thus could produce funds which could be applied to offset debt financing. For that reason, the committee also recommended continuing the program of loan guarantees and interest subsidies. The committee's recommended funding levels are based on a professional judgment of an appropriate federal share of the cost of maintaining the existing physical plant of the schools, plus an allowance for new construction of ambulatory care facilities needed for the expanding number of primary care programs being established by academic health centers.